

AFIT/GLM/LAL/97S-7

*PHARMACEUTICAL SURGE REQUIREMENTS FOR THE  
PRIME VENDOR PROGRAM - EUROPE IN SUPPORT  
OF MILITARY OPERATIONS OTHER THAN WAR*

THESIS

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THESIS

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### List of Acronyms

AMEDD	Army Medical Department
ATH	Air Transportable Hospital
AWR	Army War Reserves
CINC	Commander in Chief
CJCS	Chairman Joint Chiefs of Staff
CONUS	Continental United States
CSH	Combat Support Hospital
DA	Department of the Army
DAPA	Distribution and Pricing Agreement
DLA	Defense Logistics Agency
DMLSS	Defense Medical Logistics Standard Support
DNBI	Disease and Non-Battle Injury
DOD	Department of Defense
DODAAC	Department of Defense Activity Address Code
DPSC	Defense Personnel Support Center
EDI	Electronic Data Interchange
EDO	Extended Delivery Order
EUCOM	United States European Command
FEDEX	Federal Express
FSC	Federal Supply Class

FSS	Federal Supply Schedule
GAO	Government Accounting Office
HSS	Health Service Support
JCS	Joint Chiefs of Staff
JIT	Just In Time
JOPES	Joint Operation Planning and Execution System
JTF	Joint Task Force
MACOM	Major Command
MEDEX	Medical Express
MEDLOG	Medical Logistics
MED-ALOC	Medical Air Lines of Communications
MOOTW	Military Operations Other Than War
MTF	Military Treatment Facility
NATO	North Atlantic Treaty Organization
NDC	National Drug Code
NSN	National Stock Number
OPLAN	Operation Plan
OST	Order and Ship Time
OTSG	Office of the Surgeon General
PPC	Product and Pricing Comparison
PV	Prime Vendor

PVI	Prime Vendor Interface
RDD	Required Delivery Date
RSL	Required Stockage List
SIMLM	Single Integrated Medical Logistics Manager
SKO	Set, Kit, or Outfit
TAMMIS	Theater Army Medical Management Information System
UA	Unit Assembly
UMMIPS	Uniform Materiel Movement and Issue Priority System
UN	United Nations
UNHCR	United Nations High Command for Refugees
UNPROFOR	United Nations Protection Force
UPS	United Parcel Service
USA	United States Army
USAF	United States Air Force
USN	United States Navy
USAMMA	United States Army Medical Management Agency
USAMMCE	United States Army Medical Materiel Center, Europe
USAMRMC	United States Army Medical Research Materiel Command
VMI	Vendor Managed Inventory

**Abstract**

The U.S. military in Europe often provides medical support to military operations other than war due to unstable situations in that region of the world. The increasing support to peace operations and humanitarian assistance have led the military medical units in Europe to reexamine the pharmaceuticals traditionally maintained to support surges. This research was a qualitative, exploratory study using multiple-case study strategy to identify the specific pharmaceuticals utilized in the initial stages of military operations other than war primarily peacekeeping, peace enforcement and humanitarian assistance. The operations chosen as the units of analysis were Operation Provide Promise (Croatia), Operation Support Hope (Rwanda), and Operation Joint Endeavor (Bosnia-Herzegovina). The results of the research show that some unique surge requirements exist for military operations other than war. Taking advantage of existing clauses in its Prime Vendor contracts, the military medical community in Europe can position itself to adequately support surges for MOOTW. Future studies can continue to build on this concept and identify pharmaceutical inventory to support a wide range of contingencies which can be maintained by commercial vendors for immediate access.

***PHARMACEUTICAL SURGE REQUIREMENTS FOR THE  
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**I. Introduction**

**Chapter Overview**

This chapter introduces the issue of determining preplanned pharmaceutical surge requirements to be maintained by a prime vendor (PV), a single distributor of commercial “brand-specific” pharmaceuticals, supporting Europe. Chapter I identifies the specific problem addressed and research questions, as well as the methodology used in conducting the research, assumptions made during the study, and scope of the research. Chapter I concludes with an overview of the research effort.

**Background**

The Defense Personnel Support Center (DPSC) improved their medical supply support to military medical units by adopting commercial business practices in late 1993 in an initiative known as the DOD Prime Vendor Program (White, 1994:14). DPSC implemented the Pharmaceutical Prime Vendor Program in Europe in 1995, transitioning support from DLA consumable depots to a single commercial distributor referred to as the prime vendor. With the implementation of this program, the DPSC Directorate of Medical Materiel reduced its pharmaceutical stock in DLA warehouses to less than 200 separate lines (Lloyd, 1996:4). This reduction in central stocks has put an increased

burden on commercial vendors in the DOD Prime Vendor Program to support surges. A surge can be defined, in military terms, as an increase in requirements above normal operating levels in the early stages of a contingency or ambiguous situation (Libicki, 1988:3). Surges are typical in the early stages of missions, usually within the first 30 days, prior to sustainment operations.

The DOD has included clauses in the European Pharmaceutical Prime Vendor Contract to ensure that a prime vendor has provisions to support these surges for the military. These clauses come with cost, however, and it is important that the military require the prime vendor to maintain only those items which are most likely to be required in support of these surges.

Currently, the items being maintained by the Prime Vendor for Europe, Kendall Division of the Bindley Western Drug Company, to support surges consist of pharmaceutical products in six different unit assemblies. The sets are designed to treat trauma and sick call patients as well as restock a combat support hospital and heavy division with supplies required in combat scenarios (Spain, 1997). These sets are primarily considered Army War Reserve requirements and are also being maintained in pre-positioned go-to-war sets managed by the U.S. Army in addition to the Prime Vendor.

### **Problem**

The military often performs reactive medical logistics support in Europe due to the close relation to the threats and global crisis situations. Although the European

Pharmaceutical Prime Vendor Contract states specific surge requirements, increasing support to peace operations and humanitarian assistance has led the Army Medical Department to reexamine the pharmaceuticals traditionally maintained to support these surges.

Unidentified requirements or the wrong items being stocked can create shortfalls even with prime vendor support to Europe. Therefore, the identification of unique pharmaceuticals to be maintained by the Prime Vendor for Europe in support of surges is critical to the overall success of these missions. The pharmaceutical inventory must be robust to support a wide range of contingencies with the possibility of differing medical support being provided by Army, Navy, Air Force, or joint units at multiple echelons.

### **Research Objective**

The objective of this study is to explore the existence of unique pharmaceutical requirements used in surges in support of operations other than war. This objective will be met by using a multiple case study design to identify specific pharmaceuticals not maintained by the Prime Vendor for Europe as part of the surge clause. For the purpose of this study, pharmaceutical requirements are defined as federal supply class 6505 items requested from the European Single Integrated Medical Logistics Manager (SIMLM) by the medical unit providing direct support in an operation other than war.

### **Research and Investigative Questions**

This study will answer the following research question: Are there specific pharmaceutical requirements that should be maintained by the Prime Vendor for the

- European Region in support of surges due to military operations other than war (MOOTW)? To focus this research, the study will attempt to answer the following investigative questions:
1. What is the DOD Prime Vendor Program and what capability does a prime vendor have to support surges?
  2. What are the current pharmaceutical preplanned surge requirements maintained by the Prime Vendor for the European Region and how were they developed?
  3. How will the identification of the specific pharmaceutical surge requirements facilitate support by a prime vendor to MOOTW?
  4. What pharmaceutical commonalities exist within surges for MOOTW?

These investigative questions provide a logical process to understand the following areas:

1. Pharmaceutical surge requirements necessary to support MOOTW in Europe, Africa, and the Middle East.
2. The effects of the DOD Prime Vendor (Pharmaceutical) Program on military medical readiness.

### **Assumptions**

Several assumptions were made in conducting this research :

1. The military will continue to be involved in peace missions and humanitarian assistance as the United States plays a primary role in United Nation's operations.
2. The military operations of the future will continue to be joint, combined and multinational.

3. The United States Army Medical Materiel Center, Europe (USAMMCE) will continue to have the single integrated medical logistics manager (SIMLM) mission for the European theater in future peace operations and conduct SIMLM functions through the 226<sup>th</sup> Medical Battalion (Logistics).
4. Data collected from USAMMCE and other agencies throughout the course of this research is valid.
5. Medical support to military operations other than war including peace operations and humanitarian assistance differs from wartime medical support.

### **Scope and Limitations**

The DOD Prime Vendor Program currently covers 21 worldwide regions and includes both pharmaceutical and medical-surgical distributors. Currently, only the European, Pacific and National Capital regions include surge clauses in their contracts (Medve, 1997:1). The European region pharmaceutical program was implemented in September 1995, and the surge clause has been tested on several different occasions. The European contract was considered for study because of its association with the sponsor of this research project and the availability of historical data related to surges in Europe.

The SIMLM for Europe is USAMMCE, which is assigned to the U.S. Army Medical Research and Materiel Command (USAMRMC), the sponsor of this research. USAMMCE supports over 300 customers (Army, Navy, Air Force and Marines) throughout Europe, Africa, and the Middle East as well as joint and combined operations (Ursone, 1996:1). This situation provides a unique opportunity to review the surge

requirements of all services and not necessarily just the U.S. Army's. In addition, the high operations tempo in Europe, Africa and the Middle East provides opportunities for surges on a more frequent basis than any other in the world.

This study will involve an analysis of some of the most recent MOOTW operations involving the European SIMLM. Operations in Croatia, Rwanda and Bosnia-Herzegovina were selected to provide data because they involved U.S. military units providing assistance via rapid response, were supported through the European SIMLM, and had historical data available on the pharmaceuticals utilized in the surges.

### **Management Implications**

This research is important because the military's missions not only include combat operations but also military operations other than war (MOOTW). This study will identify pharmaceuticals provided in rapid response to the first stages of support of these operations, prior to sustainment. The case study data will be compared to preplanned surge pharmaceutical requirements currently being maintained by the European Region Pharmaceutical Prime Vendor, Kendall. Ultimately, a comprehensive list of unique pharmaceuticals to be maintained by the Kendall in support of MOOTW surges will be identified. Once identified and stocked by the Prime Vendor, these items are readily available for issue in surge situations where they are critical to the overall success of MOOTW missions.

This study also explores information in GAO reports, published reports , and unpublished papers regarding different aspects of the DOD Prime Vendor Program and

its impact on medical readiness. The DOD medical community will benefit from the improvement in efficiency of Prime Vendors over the DLA depot system in responding to crisis situations, and future research should focus on medical-surgical or other related medical products to be maintained by the vendors.

### **Thesis Overview**

Chapter I has provided an introduction to the research and covered the reason for exploring the surge requirements in MOOTW and the role a prime vendor will have in meeting these requirements. In addition, Chapter I has identified the specific problem addressed and research questions, as well as the methodology used in conducting the research, assumptions made during the study, and scope of the research.

Chapter II reviews the literature relevant to the research problem. The review focuses on the DOD Prime Vendor Program and its capabilities to support surges, the recent involvement of the U.S. military in peace and humanitarian assistance operations, and general medical logistics overview of support from the European SIMLM perspective.

Chapter III details the methodology used in conducting the research, an exploratory case study strategy with focused synthesis design. This is an appropriate way to gain familiarity and insight into a specific topic according to Cooper and Emory (1995: 118). Due to the expanding role of the military in MOOTW and the new role of the Prime Vendor in supporting the European theater, it was plausible to use a qualitative method to initially describe the elements under study. Chapter III concludes by justifying

how the implementation of the research design will meet the objectives of the research and detailing how the design will be implemented to answer the investigative questions.

Chapter IV provides the results of the research. The investigative questions are answered and lead to the ultimate achievement of the research objective. The focused synthesis methodology provides the answers to the first three investigative questions and the case studies with cross-case analysis provide the answer to the fourth investigative question.

Chapter V summarizes the findings of the research from Chapter IV and draws conclusions based on those findings. Chapter V also identifies the implications of the research to the medical logistics community and provides suggestions for future research based on the findings of the study.

## **II. Literature Review**

### **Introduction**

Military operations other than war (MOOTW) are usually joint operations, performed in concert with other government agencies, non-governmental organizations, and private volunteer organizations. Post-Cold War political pressures are likely to increase the demand for the U.S. military to conduct operations other than war (Taw and Peters, 1995:5). The provision of Health Service Support (HSS) becomes a primary means of assistance in these operations (JCS, 1995:IV-1). An important part of HSS is logistics support which encompasses providing medical supplies (including pharmaceuticals), equipment, and services where needed, in the most expeditious, efficient, and economical means (DA, 1995:2-1).

This literature review focuses on the recent adoption of commercial medical prime vendor practices to support not only peacetime health service support in military hospitals but also to provide support to contingencies including MOOTW. The review will examine the prime vendor program to ensure an understanding of its improvements in supply performance, savings in reduced inventory, and effect on readiness. In addition, this overview will provide a perspective of the complex aspects of medical support to military operations other than war (MOOTW).

## **MOOTW Aspects**

Current U.S. forces are focused toward fighting two nearly simultaneous major regional conflicts (Dille, 1996:1). "In addition to preparing for major regional contingencies, we must prepare our forces for peace operations to support democracy or conflict resolution" (Clinton, 1994:2). Peace operations is a general term for peacekeeping, peace enforcement, and humanitarian assistance, and can be included with disaster relief and nation assistance under the classification of military operations other than war. Most recently, the greatest MOOTW demands on the military have come from its role in multiple, ongoing peace operations. For example, peace operations have accounted for 90 percent of all Air Force MOOTW sorties flown since the end of the Cold War (Vick and others, 1997:1).

Since the end of the Cold War, MOOTW has moved from being a sideshow to being on center stage (1997:2). The absence of superpower rivalry has enabled the United States to play a greater role in dealing with disorder on a global basis. The United States is guided by a national security policy that has strong internationalist orientation and the current high operations tempo of MOOTW is likely to continue in the foreseeable future (1997:3).

## **Medical Support Aspects of MOOTW**

### Operation Provide Promise: Croatia

The United Nations Protection Force (UNPROFOR), a coalition of U.N. and NATO forces, was initially established on 21 February 1992 with the peacekeeping

mission for all United Nations Protected Areas in Croatia (Higgins, 1996:45).

UNPROFOR was made up of units from 31 countries and was organized into 15 active battalions. The U.S. medical mission during Operation Provide Promise was to provide echelon III support to U.N. peacekeeping forces. Echelon III care is defined as corps-level health service support which includes evacuating patients and providing resuscitative and hospital care as well as area support to units without organic medical units (Davis and others, 1996:9). The mission was jointly shared by all three services with each performing a rotation at the U.S. military hospital in Zagreb, Croatia (1996:16).

#### Operation Support Hope: Rwanda

The crisis in Rwanda was the inevitable result of 50 years of repression and violence. On 6 April 1994, a transport plane carrying President Habyarimana of Rwanda and President Ntaryamira of Burundi was shot down, most likely by a missile fired from Kigali, the capital city of Rwanda. These deaths resulted in a violent reaction by the government and militia forces that killed the Tutsi and moderate Hutu castes (Hanley, 1995:28).

The United Nations responded by deploying 2500 peacekeepers. After the Tutsi-led Rwanda Patriotic Front declared victory and established a new government, over a million Hutus fled to Tanzania and Zaire. As deaths began to mount in refugee camps there due to cholera, dysentery, and exhaustion, the U.S. responded to the humanitarian crisis. Secretary of Defense Perry said U.S. forces would go to Rwanda to deliver emergency humanitarian assistance and the forces would leave as soon as the aid was established (1995:29). The Joint Task Force was directed to provide humanitarian

assistance in the form of water, food, shelter and health care only and not to provide nation-building or peacekeeping there (1995:31). The U.S. medical mission at the outset was to provide echelon III care to all U.S. forces involved in the humanitarian mission and to provide limited support to other coalition forces, primarily on an emergency-only basis. The mission was primarily performed by U.S. Air Force medical personnel deployed from Germany with medical supply support provided by the U.S Army (Johnson, 1996).

#### Operation Joint Endeavor: Bosnia-Herzegovina

In March 1992, the people of Bosnia-Herzegovina (referred to in this study as Bosnia) voted for independence and fighting broke out between the Bosnian government and Bosnian Serbs (Fallon, 1996:65). As the war spread to include fighting among Bosnia's three main ethnic groups, UNPROFOR's mandate was expanded to protect Bosnians in six designated safe areas. U.S. forces deployed to the region in late 1995 as part of the Bosnia-Herzegovina Command (BHC) of the UNPROFOR. The mission of the Bosnia-Herzegovina Command was to provide military assistance to the United Nations High Commission for Refugees (UNHCR) and approved organizations involved in humanitarian activities and to secure safe areas. The BHC also had the mission to establish conditions favorable for evacuation of the wounded, protection of the people, cessation of hostilities (1996:66). The U.S. medical mission was to provide echelon III care to U.S. and foreign service members and U.S. and local national civilians who were at risk of life, limb, eyesight, or undue suffering. The mission was primarily performed, at the outset, by U.S. Army medical units deployed from Germany (HQ V Corps, 1996).

High operations tempo in Europe due to operations like those outlined above impacts the military's health service support logistics system because the demand for medical supplies differs in MOOTW than in combat operations due to a number of different reasons. The patient population tends to be much broader, with more diverse treatment needs. In addition to U.S. forces, medical units may be called upon to treat local civilians, refugees, coalition forces, and U.S., United Nations (U.N.), and NATO employees as well as civilian contractors (Smith and Stansfield, 1995:2-29). In Operation Restore Hope, a humanitarian and peace enforcement effort in Somalia involving 23 nations, many coalition forces were not self-sustaining and the U.N. system was not capable of providing immediate support (CALL, 1993:V-27). Also, troops in multinational coalition forces tend to have lower levels of pre-deployment medical screening, preventive medicine support, and medical and dental readiness increasing the need for medical support requirements (Davis and others, 1996:16).

These differences mean that the U.S. medical units may be called upon to provide a broader range of services possibly even including pediatric and ob/gyn in these operations. They must also be prepared to treat certain infectious diseases and chronic medical conditions not common in U.S. forces. In MOOTW, the demand for medical services is often closer to what a community hospital would face, not a combat support hospital or air transportable hospital in support of combat operations, which is generally geared toward trauma and emergency care (1996: 17).

## **Medical Logistics Planning for MOOTW**

The majority of medical logistics planning in support of selected wartime scenarios and medical supply requirements occur in a deliberate planning process. Deliberate planning is the Joint Operation Planning and Execution System (JOPES) process involving the development of operational plans for contingencies identified in joint strategic planning documents (Higgins, 1996:19). Development, coordination, review and approval of plans can take up to 18 months.

In contrast, medical logistics planning in support of a military operation other than war occurs during crisis action planning. Crisis action planning is the JOPES process involving the time-sensitive development of operation orders and plans in response to imminent crisis (JCS, 1995:II-1). Due to the time-sensitive nature of these operations, medical requirements are determined by the Joint Task Force Surgeon as the plan develops. This aspect was highlighted during the relief efforts for the Kurds (Operation Provide Comfort), and one of the recommendations after the operation was for the development of a more efficient mechanism to respond to the fast developments in humanitarian relief efforts (Meek, 1994:238). Since medical logistics planning is occurring at the same time as operational planning, specific medical logistics requirements may not be known prior to the deployment of medical units (Higgins, 1996:20).

In crisis situations, the U.S. Army will most likely be the dominant user of Class VIII (medical supplies including pharmaceuticals) and must plan for the Single Integrated Medical Logistics Management (SIMLM) mission (DA, 1995:B1-B2). As the SIMLM in

Europe, the medical materiel management center, in conjunction with the medical logistics battalion, takes on an incredible task of ensuring joint and multinational medical materiel assets are available to meet the unique requirements of the operation. Therefore, it is imperative that robust amounts of supplies are immediately available which cover a broad range of treatments in the early stages of these operations.

### **Prime Vendor Launched**

In December 1991, a Government Accounting Office (GAO) report criticized the Defense Logistics Agency's (DLA) high level of medical inventory and made harsh comparisons to commercial industry practices (GAO, 1991). The report highlighted the DLA's high costs and dissatisfied customers as a result of inventory layering and accompanying overhead, excessive order-ship times and excessive expiring of potency-dated stock (Lloyd, 1996:1). The plan of action the Defense Personnel Support Center (DPSC), DLA, and DOD undertook to reduce costs and improve medical material support to customers was the implementation of emerging commercial healthcare business practices under a program commonly referred to as the DOD Prime Vendor Program. A prime vendor operates as the single distributor of commercial medical supplies for a group of military hospitals and other medical units in a given geographic region (Azarian, 1995:2).

In the civilian sector, prime vendors use just-in-time delivery procedures to provide commercial hospitals with needed supplies on demand. This business practice allows the hospitals to purchase and receive medical supplies in a timely manner, within

24 hours of ordering, without having to store and maintain large quantities of inventory. This practice centers around regional prime vendors operating multiple labor shifts and utilizing premium transportation assets to deliver supplies to their customers, the hospitals. In addition to their reduced inventories, this practice has created other advantages for the customers including best available shelf life due to the rapid inventory turnover and reduced labor forces required to maintain large inventories (White, 1994:23).

The DOD Medical Prime Vendor Program revolutionized how the military distributes, orders, and contracts for medical products. The program has improved contracting from repetitive buying with multiple vendors to buying where the customer purchases directly from a long term partner through electronic data interchange (EDI) and receives the items directly through premium transportation i.e. FEDEX, UPS, etc. This new business practice incorporates a buying and distribution system which reduces traditional in-house functions such as purchasing, billing, inventory, and transportation. It is built on electronic commerce and EDI and the payoff is speed, choice, and lower costs to the medical customer (DPSC, 1996).

According to the GAO, by 1995, with the expanded use of prime vendors and by eliminating obsolete and unnecessary items, DLA reduced wholesale medical inventories by 41 percent from the 1992 levels and the trend continues (GAO, 1995). An indicator of DOD's growing reliance on prime vendors can be seen in the increase in PV sales from 1994 to 1995. PV sales in 1994 totaled \$180 million or 24 percent of DLA's total medical sales, but grew in 1995 to \$474 million or 54 percent of total sales. This shift

towards commercial vendors had a dramatic impact on pharmaceuticals held in DLA depots, and by September 1995, less than 200 items remained. These remaining items are either war reserve supplies intended for existing wartime medical assemblages, narcotics held for overseas issue, or items generally intended for usage in peacetime health care facilities (Lloyd, 1996:4).

### **Distribution and Pricing Agreements**

To implement this commercial business practice for the Department of Defense, DPSC had to gain the cooperation of the pharmaceutical manufacturing industry. The agreements between DPSC-Medical and the pharmaceutical manufacturers were formalized in Distribution and Pricing Agreements (DAPAs). A DAPA is a pharmaceutical manufacturer's consent to allow a third party (the prime vendor), selected by DPSC, to distribute the manufacturer's products to participating military medical facilities. The DAPA is also an agreement by the manufacturer to charge no more than a specified price to the prime vendors (Steigerwalt, 1995). The determination that prices are fair and reasonable is made by DPSC prior to approving and issuing the DAPA. Each prospective DAPA holder (manufacturer) is required to provide certification that prices are equal to or lower than their Federal Supply Schedule (FSS) price or, if FSS unavailable, that the price is the most favored customer price.

The PV is restricted to distributing to DOD facilities only those items listed on DAPAs. Commercial products can be added or deleted based on the negotiations

between manufacturers and DPSC-Medical. In addition, customers may ask DPSC to add items to existing DAPAs or establish new DAPAs.

### **The Prime Vendors**

DPSC selects regional prime vendors through the competitive bidding process. DPSC establishes "modified requirements contracts" for each pharmaceutical prime vendor in over 21 different regions (DPSC, 1997). The PVs, by region, as of 20 January 1997 can be viewed in Appendix A. The medical facilities covered by a regional PV are obligated to utilize that PV to purchase DAPA items. The regional PV is the mandatory source of supply with a few exceptions (Capano, 1994:8):

1. The item is available in a government depot.
2. The item is available through the DPSC electronic commerce program which provides direct delivery from the manufacturer.
3. The Prime Vendor cannot meet the requirements within the 24-hour shipment period due to item being out of stock or manufacturer's backorder.
4. The item is available from the Federal Prison Industries (FPI), National Institutes for the Blind (NIB), or National Institute for the Severely Handicapped.

### **Military to Commercial Conversion**

One of the key aspects behind the DOD Prime Vendor Program is the initial cross reference of pharmaceuticals in the military system to pharmaceuticals available from the commercial vendor. All military medical supplies are assigned a National Stock Number

(NSN) and pharmaceuticals are no exception. The Federal Supply Classifications (DLA, 1993:3-48) supported by a pharmaceutical prime vendor are:

1. FSC 6505 - Drugs and Biologicals
2. FSC 6508 - Medical Cosmetics and Toiletries
3. FSC 6550 - Reagents, Test Kits, and In Vitro Diagnostic Substances

As of September 1994, approximately 22,700 pharmaceuticals were available through the prime vendor program (White, 1994:16). These pharmaceuticals are maintained by national drug code (NDC) and must be cross referenced to the pharmaceuticals in the military system maintained by national stock number (NSN) as specified above.

A second key aspect is the providing of usage data by the military medical treatment facility (MTF) to the prime vendor for all items to be maintained by the PV. The Defense Medical Logistics Standard Support (DMLSS) program in conjunction with DPSC developed a Product and Pricing Comparison Tool (PPC) to facilitate item identification and unit of issue standardization. The PPC is distributed monthly to every MTF and identifies pharmaceutical items for conversion to the prime vendor program as well as providing prices of each item (DPSC, 1996).

The U.S. Army medical logistics battalion in Germany, responsible for receiving items from the Prime Vendor for the European Region and distributing them to over 300 customers, has converted 88 percent of its 2000 pharmaceutical lines to lines available from their prime vendor (Spain, 1996). Prime Vendors are required to have items available for issue within 45 days of being provided usage data by the MTF.

## PV Performance

Prime Vendors are required to offer the requested pharmaceuticals to transportation within 24 hours of receipt of order. This quick processing of orders is a major change from previous DOD supply and distribution practices, which are driven by Uniform Materiel Movement and Issue Priority System (UMMIPS) standards. These UMMIPS standards vary by priority and by region with the standard for shipment in the United States being 5 days for the highest-priority cargo, and 65 days for the lowest priority to the Western Pacific (Halliday and Moore, 1994:4). The prime vendors do not recognize the DOD UMMIPS standards. To the PV, all items requested are a “priority” and all items are offered for shipment within 24 hours of receipt of the customer’s order by the prime vendor.

In addition to the PV goal of processing orders in less than 24 hours, a prime vendor requirements contract specifies a monthly minimum fill rate of 95 percent of the line items ordered. Fill rates are the average percentage of orders fulfilled and delivered in accordance with a purchase order, based on the number of lines ordered (DISA, 1994). Pharmaceuticals are all ordered following a “fill-or-kill” requisitioning system. If the PV does not have the item available, it does not backorder the requisition; it kills the requisition and the customer must order a substitute. If the PV can partially fill the order for an item, it does so and the remaining quantity is canceled. This aspect currently differentiates the pharmaceutical PV program from the medical-surgical PV program where extended delivery orders (EDO) are possible. EDO equates to a type of backorder with the Prime Vendor (Steigerwalt, 1995).

Most PV's easily exceed the 95 percent monthly fill rate by taking full advantage of exemptions from the fill rate calculations. These exemptions include when the usage data has not been provided, when the quantity ordered exceeds that of the previous month (by the percentage expressed in the contract's statement of work), and when an item is on backorder from the manufacturer. Since the first contract was awarded, the prime vendors' fill rates have typically averaged between 97 and 98 percent on a monthly basis.

Prime Vendors are also required to provide potency-dated pharmaceuticals with at least twelve months of shelf life remaining prior to expiration date. Pharmaceuticals which have an initial shelf life of less than 12 months must have 75 percent of the dating remaining when delivered to the ordering activity (DPSC, 1997). Pharmaceuticals not meeting the dating/shelf life requirements may be returned to the prime vendor or retained by the ordering activity.

### **EDI Enhanced Order Placement**

The utilization of electronic data interchange has vastly improved the medical supply requisitioning process. A prime vendor is required to provide an electronic order entry system for placing orders with each ordering activity, and provide training on its software. The PV is also responsible for installation and maintenance of all contractor-owned hardware and software provided to the ordering offices.

In Europe, the PV contract specifies that customers place orders with the Prime Vendor for the European Region via the Internet. The ordering MTF can use the PV's electronic order system directly or its own legacy system and a prime vendor interface

(PVI). Army and Air Force ordering MTFs require a prime vendor interface (developed by DMLSS) to translate output from TAMMIS and MEDLOG, the Army and Air Force's medical inventory management information systems respectively, into a communications format understood by the Prime Vendor.

Military medical customers in Europe use a government-furnished personal computer known as a DASH PC to send delivery orders (ASC X12 standard 850 format) to the PV and receive delivery order acknowledgments (855 format) via the Internet. This action is accomplished via PC/TCP (Personal Computer/ Transmission Control Protocol) software installed on the DASH PC with a network interface card. The Dash PC at the MTF, with the PVI software, initiates the connection to the PV's host machine and sends data via file transfer protocol (FTP) to the host machine's Internet Protocol (IP) Address (DPSC, 1995).

The Prime Vendor provides an electronic order confirmation to the ordering office within two hours of receipt of the order. If the PV cannot fill an item on the order, the ordering activity may order the item from a different source of supply. The Prime Vendor sends a hard copy invoice for only the items filled with each shipment as well as sending an invoice electronically to DPSC (Steigerwalt, 1995).

### **Transportation Issues**

Previously, when significant levels of pharmaceutical inventory were held in DLA depots, they were shipped to military activities in Europe through a transportation program called MED-ALOC (Medical Air Lines of Communications). This program

included packing, marking and palletizing these pharmaceuticals for air shipment at consolidation points in the DLA depot at Mechanicsburg, Pennsylvania. During surges, the initial supply to deploying units was provided in a push method based on preconfigured supply packages which were pulled from depots and consolidated at Mechanicsburg. These pharmaceuticals were then trucked to Dover Air Force Base, Delaware for air shipment overseas on Air Mobility Command (AMC) aircraft (Magee, 1997:12).

With the transition to the prime vendor program, the overseas transportation support progressed to commercial air carriers under a program called Medical Air Express (MEDEX), developed jointly by DLA and AMC (1997:14). Under this new transportation program, filled pharmaceutical orders are packed, marked, and palletized by the Prime Vendor and shipped to overseas locations by a non-military third party carriers designated on contract i.e. FEDEX, Emery, or UPS etc. These carriers pick up at the Prime Vendor's warehouse and airship directly to the ordering activity. Transit times have been drastically reduced to approximately 96 hours, considerably lower than the MED-ALOC program and 60 plus days for surface seavans (1997:16).

### **Product Recalls and Management Data**

An added benefit to the military that the prime vendor program provides is product recall notification. The prime vendor is required to provide product recall notification regardless of level to each ordering activity, selected DOD agencies, and the DPSC Contracting Officer within 48 hours after notification from the manufacturer. This

function can be provided electronically which allows for further dissemination down to the user level. Recalls are processed in accordance with the manufacturer's instructions provided, and the prime vendor will issue a credit for products that are returned due to recall (Steigerwalt, 1995).

Prime Vendors also provide standard monthly, quarterly, and annual reports to each participating activity showing volume of sales, volume by product, volume per activity. The prime vendors must provide monthly "fill rate" and sales reports to each activity and DPSC. In addition, PV representatives are required to make at least one customer service visit semi-annually to each ordering facility (DPSC, 1995).

### **Preplanned Surge Requirements**

Unique to the PV contracts for the Pacific, National Capital and European regions are preplanned surge requirements. These are items which are maintained by the Prime Vendor, generally in a package or set, with no usage data, for rapid response to crisis situations. "Preplanned" denotes that the PV will receive 90 days notification of changes in the contents of a package or set. The PV must be capable of meeting the surge requirements on a repeated basis not to exceed a ten-day cycle. For example, one heavy division required stockage list (RSL) may be ordered every 10 days.

Only pharmaceuticals listed on Distribution and Pricing Agreements will be maintained in the sets or packages. A component listing of the current items maintained as preplanned surge requirements by the Prime Vendor for Europe, Kendall Division of

Bindley Western Drug Company, can be viewed in Appendix B. For the European contract, the current sets and time-frames are listed below (Medve, 1997:2):

1. Within 72 hours of receipt of order, the Prime Vendor must offer for shipment 100 percent of the pharmaceuticals required to assemble 100 Trauma Resupply Sets - Unit Assembly (UA) No. 1327.
2. Within 72 hours of receipt of order, the Prime Vendor must offer for shipment 100 percent of the pharmaceuticals required to assemble 100 Sick Call Resupply Sets - Unit Assembly (UA) No. 1328.
3. Within 96 hours of receipt of order, the Prime Vendor must offer for shipment 95 percent of the pharmaceuticals required to initially supply one Combat Support Hospital - Unit Assemblies No. 1338 and 1339.
4. Within 10 days of receipt of an order, the Prime Vendor must offer for shipment 95 percent of the pharmaceuticals required for one heavy division Recommended Supply List (RSL) - Unit Assembly No. T841 or one humanitarian assistance set - Unit Assembly No. 1341.

The items listed above may be ordered simultaneously, with offer for shipment required within the time specified. Telephonic notification must precede any electronic orders for preplanned surge items. Orders for preplanned surge requirements can be made only by units designated on the PV contract, primarily the U.S. Army Medical Material Agency in the National Capital Region and the SIMLMs in the Pacific and Europe, respectively. The orders can be made by set or by line item using the PV's order entry system following telephonic notification (DPSC, 1995).

## **Surge Tests**

The DOD Prime Vendor Program's capability to support a surge has been tested on a few different occasions. The first test was sponsored by the U.S. Army Medical Material Agency (USAMMA) and was conducted at Fort Lewis, Washington. During the first five days of the test, the PV, McKesson Wholesale Drug, provided 90 percent of the pharmaceutical requirements for the 18<sup>th</sup> Mobile Army Surgical Hospital. Within 12 days, McKesson provided 98 percent of the requirements (1275 lines) even though their contract does not specify a surge requirement to support conditions simulated by the test (Lloyd, 1996: 13).

Shortly after PV implementation in Europe, a surge test consisting of an order for 25 Sick Call Sets (UA No. 1328), 25 Trauma Sets (UA No. 1327) and one Combat Support Hospital Resupply Set (UA No. 1338/1339) was sponsored by the U.S. Army Medical Materiel Center, Europe. This surge order consisted of a total of 1299 lines at a total cost of \$71,220. The Prime Vendor for Europe, Kendall Division of Bindley Western Drug Co., was able to fill 94 percent of the lines within the time-frames required by contract (Johnson, 1996).

A second test in Europe was an order just prior to the deployment of forces in Bosnia of 30 Sick Call Sets, 20 Trauma Sets, and two Combat Support Hospital (CSH) Resupply Sets. This order consisted of 1429 lines at a total cost of \$96,200. Kendall Division was able to fill 100 percent of the Trauma and Sick Call Sets within 72 hours and 98 percent of the CSH Resupply Sets within 72 hours, exceeding the required 95 percent in 96 hours (Johnson, 1996).

This exemplary performance in supporting surges is just a highlight of the capability of a prime vendor. It also emphasizes the importance of having the PV maintain the items required for surges. Rather than trying to stock all of these pharmaceutical lines in forward units and maintain appropriate shelf-life etc., the prime vendor can be utilized to maintain and deliver these items in a timely manner in support of combat operations or military operations other than war (MOOTW).

## **Conclusion**

Military operations other than war do not normally emphasize trauma care of combat casualties (Higgins, 1996:22). These operations are emphasized by preventive medicine, treatment of infectious disease, endemic disease prevention and disease non-battle injury (DNBI) casualties. This uniqueness of MOOTW impacts the medical logistics requirements because most medical units deploy with their basic load of supplies to support combat scenarios, which will not fit their medical needs in a peacekeeping or humanitarian assistance scenario (Davis and others, 1996:122). In addition, MOOTW is highlighted by crisis action planning, the lead time to build up supplies to meet this surge may be short, therefore, having the required supplies readily available is critical to early success in these operations.

A prime vendor provides an effective and efficient vehicle for supporting surges of medical supplies as demonstrated in early tests of McKesson and Kendall. A prime vendor can maintain and ship large quantities of pharmaceuticals within 72 hours if given prior notice of requirements. Therefore, determining specific pharmaceutical

requirements for MOOTW and adding them to the preplanned surge requirements in a prime vendor contract can ultimately result in lives saved in the early stages of peace operations.

### **III. Methodology**

#### **Chapter Overview**

This chapter provides details on the methodology used to conduct the study. It describes a qualitative methodology which uses focused synthesis with multiple-case study strategy. This chapter describes the specific methods used to answer the investigative questions and how the implementation of the research design meets the research objective.

This research is a qualitative, exploratory study using multiple-case study strategy to identify the specific pharmaceutical items utilized in the initial stages of military operations other than war primarily peacekeeping, peace enforcement and humanitarian assistance. These operations are characterized by emphasis on preventive medicine, treatment of infectious disease, endemic disease prevention and disease non-battle injury (DNBI) casualties, not the primary focus of current pharmaceutical requirements held in war reserve to support combat forces in combat scenarios. Through cross-case analysis, the study matches items held by the Prime Vendor for Europe as preplanned surge requirements in support of combat operations against the unique pharmaceuticals found in the case studies of peace operations to identify shortfalls in initial supply support. A focused synthesis is utilized to gain insight and understanding into the DOD Prime Vendor Program and its capability to support MOOTW through current provisions in the requirements contract.

## **Qualitative Research**

The nature of this research problem yields itself to the qualitative approach. “Qualitative refers to the meaning, the definition or analogy or model characterizing something” according to Cooper and Emory (Cooper and Emory, 1995:118). Although war reserve requirements exist, specific information defining the items and processes required to support MOOTW is still evolving. This research attempts to gain information which will identify the specific pharmaceuticals required in the early stages of deployments in support of peace operations and humanitarian assistance.

A multiple-case study strategy combined with focused synthesis was chosen as the most appropriate qualitative methodology to answer the research and investigative questions. This study requires detailed information from different sources to identify the pharmaceuticals required to support surges due to peace operations. The many sources utilized to collect the data required in this study included military lessons learned documents, after action reports, and interviews with subject matter experts. This type of data is generally descriptive in nature and not applicable to formal, statistical study.

Formal, statistical studies are generally required to determine a causal relationship. However, for this problem, the specific pharmaceutical requirements for a surge package in support of operations other than war must be determined prior to a causal relationship being investigated. Producing an effect on a variable as is common in formal research designs is not the objective of this study (1995:118).

Qualitative research is effective for gaining “insights or familiarity” or for describing an institution or process (Schmitt and Klimoski, 1991:122). This research will

attempt to describe pharmaceutical surge requirements encountered in military operations other than war and explore the DOD Prime Vendor Program, providing insight into its use as the vehicle for maintaining and distributing pharmaceuticals for surge situations in support of MOOTW.

The nature of this problem requires an “empirical inquiry that investigates the problem within its real life context and in which multiple sources of evidence are used” which follows the technical definition of a case study provided by Yin (Yin, 1994:12). Since the military based in Europe has recently maintained a high operational tempo in support of peace operations throughout the world, identifying these requirements within their real life context is facilitated. Specific military operations other than war which caused surges in the demand for pharmaceuticals were chosen for the analysis. For example, recent missions in Bosnia-Herzegovina and Rwanda involved surges in the demand for pharmaceuticals in the early stages. In addition, they both involved different geographic areas and different units in direct support of the peace operations, a phenomena often encountered by the SIMLM - Europe.

Focused synthesis involves the integration of information from unpublished sources including discussions with experts, information papers, expert briefings, etc. in addition to information from published sources (Majchrzak, 1986:59). The traditional historical analysis was not appropriate for a study on the Prime Vendor’s capability to support surges due to the lack of published research on this relatively new DOD initiative. To better understand the phenomenon under study, focused synthesis is used to

discern the Prime Vendor's capabilities to support pharmaceutical requirements in surge situations.

## **Research Design**

According to Cooper and Emory, "research design constitutes the blueprint for the collection, measurement, and analysis of data." It is the "plan and structure of the investigation so conceived as to obtain answers to research questions" (Cooper and Emory, 1995:114). The use of exploratory case studies combined with focused synthesis enable the following investigative questions to be answered:

1. What is the DOD Prime Vendor Program and what capability does a prime vendor have to support surges?
2. What are the current pharmaceutical preplanned surge requirements maintained by the Prime Vendor for the European Region and how were they developed?
3. How will the identification of the specific pharmaceutical surge requirements facilitate support by a prime vendor to MOOTW?
4. What pharmaceutical commonalities exist within surges for MOOTW?

The results of the synthesis of information from RAND reports, DLA PV contracts, information papers, briefings, and discussions with experts provide the information to answer investigative questions one through three.

A multiple-case study strategy is used to answer investigative question four. According to Yin, multiple-case study design is considered more compelling and leads to an overall study which is more robust (Yin, 1994:53). In this research effort, three real

life surge situations in support of military operations other than war in Croatia, Rwanda and Bosnia-Herzegovina are the cases selected for analysis. Each individual case's conclusions are considered to be information needing replication by other individual cases and this replication assists in establishing external validity (1994:57).

In addition to ensuring external validity, this research effort utilizes multiple sources of evidence and establishes a chain of evidence during data collection as well as uses key informants to review draft case study reports. These case study tactics ensure construct validity which is defined as "establishing correct operational measures for the concepts being studied" (Yin, 1994:41).

In addition to ensuring construct validity, this research effort utilizes a case study protocol and case study database. These case study tactics ensure reliability which is defined as "demonstrating that the operation of a study, such as the data collection procedures, can be repeated, with the same results" (1994:42).

## **Design Implementation**

The research design discussed above is implemented in the following manner:

1. Screening criteria for selection of unit of analysis is defined
2. Real-life MOOTW as unit of analysis is selected
3. Format for case study report is developed
4. Data are collected and analyzed (including cross-case analysis)
5. Findings are presented

The criteria for selection of units of analysis include the following:

1. Real-life military operation other than war (as opposed to a training exercise) involving surge in the demand for pharmaceuticals in the early stages of deployment.
2. Operations involving medical logistics support provided via the direction of the U.S. Army Medical Materiel Center, Europe, the SIMLM for Europe.
3. Different military service medical units across operations involved in the direct support of the operation (joint support), a phenomena often encountered by the SIMLM - Europe.
4. Transaction records available from SIMLM which cover the surge portion of the operation (generally within the first 30 days) up to on-line line-item requisitioning by the direct support unit.

The criteria led to the selection of Operation Provide Promise (Croatia), Operation Support Hope (Rwanda) and Operation Joint Endeavor (Bosnia-Herzegovina) for case study analysis. All of these real-life operations involved surges in the demand for pharmaceuticals in the early stages. Due to the relatively short time-frames for buildup of supplies for the operation, the initial requests from deploying units acted as a surge on the medical logistics battalion providing medical materiel support. In addition, they each involved different types of missions and different units in direct support. Transaction records identifying all pharmaceuticals provided to deploying U.S. medical support forces were also available from the SIMLM - Europe.

The remaining steps in the research design implementation are discussed in depth in the following sections. The focused synthesis strategy for data collection primarily focuses on two methods of exploratory investigation, in-depth discussion with subject matter experts (conversational rather than structured) and document analysis (Majchrzak, 1986:60). Due to the relatively recent implementation of the prime vendor program, the available information is limited. Therefore, document analysis focuses on information papers, briefings, contracts and research papers. Completion of these remaining steps of the research design implementation provides answers to the primary research question: Are there specific pharmaceutical requirements that should be maintained by the Prime Vendor for Europe in support of surges due to military operations other than war (MOOTW)?

### **Research Instruments**

According to Yin, the “case study protocol is a major tactic in increasing the reliability of case study research and is intended to guide the investigator in carrying out the case study. The case study protocol contains the research instrument and contains the procedures and general rules that should be followed in using the instrument” (Yin, 1994:70). The case study protocol provided below outlines the units of analysis (military operation other than war which is being investigated), the data collection conventions, the format of the study, and the comparative analysis:

Unit of analysis - This portion of the case study compares the selected military operation other than war (unit of analysis) against the screening criteria stated above. It

provides a justification which substantiates why the selected operation is an adequate unit of analysis from the entire population of operations other than war.

Data Collection - Data collection for each case study is limited to the pharmaceutical requests and issues processed by the European SIMLM in support of the initial surge for the operation. The SIMLM provides primary data via the Theater Army Medical Management Information System (TAMMIS) transaction records by Department of Defense Activity Address Code (DODAAC) of the supporting medical units based on operational project codes. These units include only U.S. Army, Air Force and Navy military medical units acting in direct support of the operation.

The TAMMIS transaction records providing the primary data are arranged in table shells in nomenclature sequence to facilitate cross leveling between cases and with the current surge requirements managed by the European Region Prime Vendor. NSN and NDC level detail is required to ensure packaging and equivalence differences are captured. Due to the capability of medical units to order via NSN or NDC, both are evaluated.

Case Study Report Outline - Each individual case study begins with a narrative description of the operation including the medical units involved, the time period of the operation, and the functions of the SIMLM providing support. The primary data collected from each operation is compared against the current pharmaceutical requirements maintained by Kendall at the NSN/NDC level of detail. The result of this comparison is the identification of pharmaceuticals unique to the specific case.

In addition, results from each individual case are compared between cases (cross-case) at the same level of detail as described above. This comparison reveals whether similar pharmaceutical requirements exist for different military operations other than war, thereby, answering investigative question four.

## **Data Analysis**

Due to the different techniques used for data collection in this research, data analysis occurs differently in answering the investigative questions. To explain the data collection and analysis required to answer each question and ultimately meet the research objective, the techniques used in this research will be discussed below based on the question being answered.

1. What is the DOD Prime Vendor Program and what capability does a prime vendor have to support surges?

This question seeks to provide insight into “who” prime vendors are and “what” capability they have. Information papers, correspondence with subject matter experts, military briefings, GAO reports, DPSC customer information packets, and the original requirements contract awarded to Kendall were reviewed to gain understanding of the prime vendor program. Discussions with representatives from Kendall and a summary of their performance to date in Europe provide insight into the capabilities of a prime vendor. A concise narrative synopsis will result from the focused synthesis of information and will answer investigative question one.

2. What are the current pharmaceutical preplanned surge requirements maintained by the Prime Vendor for the European Region and how were they developed?

To compare case study data to preplanned surge requirements it was necessary to create a comparable listing of surge items currently being maintained by the Prime Vendor for Europe. The primary data records of pharmaceutical preplanned surge requirements down to the NDC level of detail with NSN cross reference were obtained from the European Prime Vendor, Kendall Division of Bindley Western Drug Company. This listing was cross referenced with the original requirements contract (SPO200-95-D-7013) written by DPSC contracting officer, Bill DiLauro, to ensure records maintained at Kendall matched the original contractual requirements (DPSC, 1995). The individual surge packages were consolidated and arrayed in a database in nomenclature sequence at the NSN level of detail. An investigation into how these requirements were originally developed was undertaken by discussion with subject matter experts at USAMMCE and USAMMA. These data provide the answer to investigative question two.

3. How will the identification of the specific pharmaceutical surge requirements facilitate support by a prime vendor to MOOTW?

This question was intended to explore the differences between DLA depot support and PV support to MOOTW. These differences provide insight into how surge requirements at the PV facilitate support as compared to the current processes. In addition, the results of the cross-case analysis of the multiple case studies is compared at the NSN level of detail to Distribution and Pricing Agreements with existing manufacturers. This comparison identifies the general availability of the commonalities

(specific surge requirements) within the current DAPA framework. Pharmaceuticals already on DAPA are readily available from manufacturers and long procurement lead times and pricing negotiations do not have to take place thereby facilitating timely support. A concise narrative synopsis results from the focused synthesis of information and the DAPA comparison results will be categorized and reported answering investigative question three.

#### 4. What pharmaceutical commonalities exist within surges for MOOTW?

A database of pertinent information is created from each individual case study as described above in the case study protocol. The specific pharmaceuticals requested from USAMMCE during the surge created by deploying units in support of each individual MOOTW are compiled in the database. A comparative analysis of this primary data across cases will yield the pharmaceuticals which are common to surges from military operations other than war. These comparative analysis results will answer investigative question four.

### **Summary**

This chapter outlined the methodology used in conducting this research. The qualitative research method which uses focused synthesis with multiple-case study strategy was discussed and the arguments for using it in this study were provided. The research design and the methods for implementation were explained and data analysis was discussed in detail. The case study protocol was also presented as the research

instrument with details on how it would be implemented to answer investigative questions and fulfill the research objective.

Chapter IV will present the results of the research. The investigative questions will be used as the outline for the chapter. Each investigative question will be listed and the results obtained through the research effort will be provided.

## **IV. Results and Analysis**

### **Chapter Overview**

This chapter presents the results of the research. The investigative questions are used as the outline for the chapter. Each investigative question is listed and the results obtained through the research effort are provided with an analysis of the datum. Focused synthesis provides the answers to investigative questions one, two and three.

The multiple-case study strategy with comparative analysis provides the answer to investigative question four. The specific pharmaceuticals which were identified in each individual case study and the cross-case analysis are provided in the appendices. Summaries of the information contained in the appendices are arranged in summary tables in the appropriate section to assist the reader in evaluating the results.

### **Prime Vendor Process**

**Question One.** What is the DOD Prime Vendor Program and what capability does a prime vendor have to support surges?

This question seeks to define the characteristics of a prime vendor and the capability they have to support not only peacetime medical operations at community hospitals but to support surges of pharmaceuticals in deployable medical units as well. These answers will provide the basis for evaluating the utilization of a prime vendor as the primary source of supply for pharmaceutical surges in support of military operations other than war in Europe, Africa and the Middle East.

Previous research by military medical officers and correspondence with subject matter experts at USAMMA and DPSC provided the majority of the information required to gain an understanding of the prime vendor program. Discussions with representatives from the Prime Vendor for the European Region, Kendall Division of Bindley Western Drug Company, and the SIMLM-Europe, USAMMCE, provided insight into the capabilities of the Prime Vendor.

### **Findings**

In late 1991, the Government Accounting Office published a report criticizing DOD's medical inventory practices. They directed the criticism at the use of a depot system to maintain inventories and support requirements and recommended implementation of practices similar to those of the civilian sector (GAO, 1991). In March 1992, DPSC established a task force to implement changes in their current business practices, choosing to adopt the commercial concept of the prime vendor to procure and distribute pharmaceuticals for the DOD (White, 1994:14). A prime vendor operates as the single distributor of commercial, brand-specific medical supplies for a group of military medical hospitals or other military medical units in a given geographic region (Azarian, 1995:2). The processes utilized by the prime vendor program are outlined in Chapter Two, Literature Review.

The DOD Prime Vendor Program covers 21 worldwide regions and includes both pharmaceutical and medical-surgical distributors with the prospects of dental and x-ray prime vendors still evolving. The pharmaceutical prime vendors and their designated regions are listed in Appendix A. Currently, only the European, Pacific and National

Capital Regions include preplanned surge clauses in their pharmaceutical PV contracts.

The Pacific Region Prime Vendor Program was implemented in mid-1996 and the impact of the PV on surges in the region has not been determined. The National Capital Region Contract was just recently modified to include the surge clause primarily for use by the CONUS SIMLM, the U.S. Army Medical Material Agency (LoSardo, 1996: 1). The European Region was implemented in September of 1995 and the Prime Vendor's capability to support a surge via the preplanned surge clause has been tested and documented on two different occasions.

The first test, conducted shortly after PV implementation in Europe during the last fiscal quarter of 1995, was an order by the U.S. Army Medical Materiel Center, Europe (USAMMCE) for 1299 lines at a total cost of \$71,220. Kendall was able to fill 94 percent of the lines within the required time-frames as specified in the preplanned surge clause of the PV contract (Johnson, 1996).

The second test was an order placed by USAMMCE during the first fiscal quarter of 1996 for 30 Sick Call Sets, 20 Trauma Sets, and two Combat Support Hospital (CSH) Resupply Sets. This order consisted of 1429 lines at a total cost of \$96,200. Kendall was able to fill 100 percent of the Trauma and Sick Call Sets within 72 hours and 98 percent of the CSH Resupply Sets within 72 hours. Kendall's performance exceeded the required 95 percent in 96 hours as specified in the PV contract (Johnson, 1996).

## **PV Preplanned Surge Requirements**

Question Two. What are the current pharmaceutical preplanned surge requirements maintained by the Prime Vendor for the European region and how were they developed?

This question intended to identify the pharmaceuticals currently being maintained by Kendall and explore how these requirements were developed. Identifying the current pharmaceutical requirements will enable comparative analysis with the results of the case studies to answer the research objective. To identify these current requirements, the original requirements contract (SPO200-95-D-7013) and existing modifications written by DPSC contracting officer, Bill DiLauro, were obtained. A listing of pharmaceuticals currently being held in inventory as preplanned surge requirements was also obtained directly from Kendall and matched against the original contract to verify compliance. To determine how the original requirements were determined, subject matter experts at USAMMA and USAMMCE were consulted.

### **Findings**

The original preplanned pharmaceutical surge requirements were developed for the European Region Prime Vendor to ensure contingencies could be adequately supported through the prime vendor process. With the reduction in pharmaceuticals in the DLA depots to less than two hundred lines and the limited amount of average inventory held for daily peacetime operations by a prime vendor, some senior leaders question the ability of a prime vendor to support contingencies (Lloyd, 1996:4).

To answer the critic's questions, the DPSC Medical Directorate added a preplanned surge clause in the contract written for Europe. This clause and the requirements outlined in it were developed by representatives of the U.S. Army Medical Material Agency (USAMMA) and representatives of the SIMLM-Europe (USAMMCE) by reviewing the current Army war reserve requirements for the European theater. This clause was the first "surge" clause developed under the DOD Prime Vendor Program and led the way for surge clauses to be developed for the Pacific Region and National Capital Region as well. These original requirements were developed primarily to ensure pharmaceuticals above the normal daily operational stock were available from a prime vendor on short notice during a crisis (Medve, 1997:1).

Currently, the items being maintained by the Prime Vendor for Europe consist of pharmaceuticals in unit assemblies (UA) numbered 1327 (Medical Resupply Set, Trauma), 1328 (Medical Resupply Set, Sick Call), 1338/1339 (Combat Support Hospital Resupply), 1341 (Humanitarian Assistance Set), and T841 (Heavy Division RSL) (Medve, 1997:2). These items are primarily considered war reserve requirements and are also being maintained in pre-positioned sets by the U.S. Army. The listing of the current preplanned pharmaceutical surge requirements maintained by Kendall for the European region is displayed in Appendix B.

### **Prime Vendor Support to MOOTW**

Question Three. How will the identification of the specific pharmaceutical surge requirements facilitate support by a prime vendor to MOOTW?

This question intended to explore the varying differences between DLA depot support and PV support. A prime vendor's methods of maintaining and distributing pharmaceuticals varies from the traditional system and requires synthesis to determine its advantages and disadvantages in supporting military operations. In addition, this question hoped to provide insight into Distribution and Pricing Agreements, a core element of the prime vendor program. The results of the cross-case analysis of the multiple case studies were compared at the NSN level of detail to Distribution and Pricing Agreements with existing manufacturers. This comparison defines the availability of the commonalities within the current DAPA framework. Pharmaceuticals already on DAPA are readily available from manufacturers and long procurement lead times and pricing negotiations do not have to take place, thereby facilitating timely support to MOOTW.

### **Findings**

Although many differences exist between DLA and PV support, the major difference to the European theater is the reduced order-ship time (OST) under the PV program (Spain, 1997). Prime Vendors do not recognize the DOD UMMIPS standards. To the PV, all items requested are a “priority” and all items are offered for shipment within 24 hours. Along with the transition of the military medical community in Europe to the prime vendor program, overseas transportation support transitioned to commercial air carriers and away from the military transportation system (Magee, 1997:14). Under this new transportation program, filled pharmaceutical orders are prepared for shipment by Kendall, picked up at their doorstep and shipped to overseas locations by a specific

commercial carrier designated on contract, currently Emery. Transit times to Germany have been drastically reduced to approximately 96 hours, considerably lower than the MED-ALOC program and 60 plus days for surface seavans (1997:16). Even in wartime scenario based on data collected from Operation Desert Storm, high-priority shipments from DLA took an average of 30 days from the time the order was placed until items were received (Halliday and Moore, 1994:5). The rapid processing time at Kendall and rapid transport time via commercial carriers has effectively reduced the OST at USAMMCE in Pirmasens, Germany on pharmaceuticals from 42 days to 5 days (Spain, 1997).

In addition to the PV goal of processing orders in less than 24 hours and transit goals of less than 96 hours to Europe, the prime vendor requirements contracts specify a monthly minimum fill rate of 95 percent of the line items ordered by the military medical units. The contractor calculated fill rate for the European PV contract was 96.1 percent in March 1996 (Esterly, 1996).

The results of the cross-case analysis will be discussed in detail in the next section. However, to answer question three, the common items which resulted from the cross-case analysis were compared against the current DAPAs. Of the 30 common pharmaceuticals which exist within surges for the three operations (MOOTW) analyzed in this study, 97 percent are already on a current Distribution and Pricing Agreement. The listing in Appendix G identifies the common items currently on DAPA. These pharmaceuticals are readily available from existing manufacturers for the prime vendor program and can be added as preplanned surge requirements in less than 90 days

according to the requirements contract for Europe (DPSC, 1995). Those not on DAPA will take approximately 60 days to add to DAPA due to source selection and pricing negotiations plus up to 90 days for the PV to stock the item as a preplanned surge requirement (Steigerwalt, 1995).

### **Cross-Case Analysis of MOOTW**

Question Four. What pharmaceutical commonalities exist within surges for MOOTW?

This question seeks to determine whether there are pharmaceuticals required during surges which are common across different operations other than war. By determining which pharmaceuticals are common to these operations, the SIMLM - Europe can require the PV to maintain these items as preplanned surge requirements. In order to answer the investigative question, a case study analysis was required first and then a cross case analysis of the line items ordered during the surge of the operation could be accomplished.

#### Case Study Results.

Three separate operations met the selection criteria designated for the units of analysis. These operations were Operation Provide Promise, Operation Support Hope, and Operation Joint Endeavor. Each involved different types of MOOTW missions, peacekeeping, humanitarian assistance, and peace enforcement respectively and different units in direct support, Navy, Air Force and Army respectively. Transaction records

identifying all pharmaceuticals provided to deploying U.S. medical support forces were also available from the SIMLM - Europe.

*Operation Provide Promise: Croatia*

This research effort focuses on the July - August 1994 initial surge of pharmaceutical requests at the United States Army Medical Materiel Center, Europe (USAMMCE) from the Navy's Fleet Hospital 5 during its deployment to Croatia. USAMMCE is the U.S. European Command's (EUCOM) Single Integrated Medical Logistics Manager (SIMLM). Its essential missions are to provide world class, cost-effective medical logistics management in support of health care operations and to support the readiness of operational forces including providing medical logistics support for special missions. USAMMCE provides direct medical logistics support in conjunction with the 226<sup>th</sup> Medical Battalion (Logistics). This Army battalion is the deployable element structured to receive, store and distribute pharmaceuticals directly from the Prime Vendor (Ursone, 1996).

For Operation Provide Promise, USAMMCE and the 226<sup>th</sup> Medical Battalion (Logistics) received the standard supply requests directly from the Navy Fleet Hospital and transported the requested items including pharmaceuticals via military air to them in Zagreb. Due to the relatively short time-frames for buildup of supplies for the operation, the initial pharmaceutical requests from the deploying unit acted as a surge on the medical logistics battalion.

## **Results**

Transaction records were obtained from the Theater Army Medical Management Information System (TAMMIS) at USAMMCE which showed the pharmaceuticals ordered by Navy Fleet Hospital 5 (DODAAC - N00061) during its initial deployment into Croatia. This listing is provided at the NSN level of detail in Appendix C. The listing shows the national stock number, nomenclature, and quantity issued to the Navy Fleet Hospital. The items in Appendix C will be utilized later in the cross-case analysis portion of this study to arrive at the pharmaceuticals “common” to surges for MOOTW.

The individual case study results in Appendix C were compared against the existing preplanned surge requirements in Appendix B and a summary of the results is provided below in Table 1. Primarily, the table shows 118 separate lines of pharmaceuticals constituting the surge for Operation Provide Promise. Of those 118 lines only 37 lines are currently maintained as PV preplanned surge requirements, approximately 31 percent. The remaining 69 percent are not currently PV surge requirements.

Table 1: Operation Provide Promise Surge Summary

NSN Lines	PV Surge Item Currently	Not PV Surge Item Currently	% PV Surge	% Not PV Surge
118	37	81	31%	69%

### *Operation Support Hope: Rwanda*

This research effort focuses on the August 1994 initial surge of pharmaceutical requests at the United States Army Medical Materiel Center, Europe (USAMMCE) from deploying medical units. The 37<sup>th</sup> Medical Detachment (DODAAC - W81YMD) and elements of the 86<sup>th</sup> Medical Group Air Transportable Hospital (DODAAC - FM5664) deployed in support of U.S. Army and Air Force medical forces providing humanitarian assistance in Rwanda.

For Operation Support Hope, USAMMCE served as the SIMLM. The 226<sup>th</sup> Medical Battalion (Logistics) in coordination with USAMMCE received the standard supply requests for pharmaceuticals directly from the 37<sup>th</sup> Medical Detachment and 86<sup>th</sup> ATH and transported the requested items primarily via military air to them in Entebbe, Uganda.

### **Results**

Transaction records were obtained from the Theater Army Medical Management Information System (TAMMIS) at USAMMCE which showed the pharmaceuticals ordered by the 37<sup>th</sup> and 86<sup>th</sup> prior to their initial deployment into the area of operation in Rwanda. This listing is provided at the NSN level of detail in Appendix D. The listing shows the national stock number, nomenclature, and quantity issued to the units. The items in Appendix D will be utilized later in the cross-case analysis portion of this study to arrive at the pharmaceuticals “common” to surges for MOOTW.

The individual case study results in Appendix D were compared against the existing preplanned surge requirements in Appendix B and a summary of the results is

provided below in Table 2. Primarily, the table shows 132 separate lines of pharmaceuticals ordered as surge for Operation Support Hope with only 30 lines currently maintained as PV preplanned surge requirements, approximately 23 percent.

Table 2: Operation Support Hope Surge Summary

NSN Lines	PV Surge Item Currently	Not PV Surge Item Currently	% PV Surge	% Not PV Surge
132	30	102	23%	77%

*Operation Joint Endeavor: Bosnia-Herzegovina*

This research effort focuses on the November - December 1995 initial surge of pharmaceutical requests at the United States Army Medical Materiel Center, Europe (USAMMCE) from the Distribution Company of the 226<sup>th</sup> Medical Battalion (Logistics) (DODAAC - W810KM). This company deployed to Taszar, Hungary initially in support of the 67<sup>th</sup> Combat Support Hospital and other units in the reception area and eventually moved to Tuzla to primarily support echelon above division medical units throughout the Joint Endeavor theater.

For Operation Joint Endeavor, USAMMCE once again served as the SIMLM. USAMMCE received the standard supply requests for pharmaceuticals directly from the deploying element, 226<sup>th</sup> Distribution Company, and transported the requested items primarily via commercial truck to them in Hungary and eventually in Tuzla.

## **Results**

Transaction records were obtained from the Theater Army Medical Management Information System (TAMMIS) at USAMMCE which showed the pharmaceuticals ordered by the 226<sup>th</sup> Distribution Company prior to its initial deployment into Bosnia. This listing is provided at the NSN level of detail in Appendix E. The listing shows the national stock number, nomenclature, and quantity issued to the Distribution Company. The items identified in Appendix E will be utilized later in the cross-case analysis portion of this study to arrive at the pharmaceuticals “common” to surges for MOOTW.

The individual case study results in Appendix E were compared against the existing preplanned surge requirements in Appendix B and a summary of the results is provided below in Table 3. Primarily, the table shows 142 separate lines of pharmaceuticals ordered as surge for Operation Joint Endeavor with 40 lines currently maintained as PV preplanned surge requirements, approximately 28 percent.

Table 3: Operation Joint Endeavor Surge Summary

NSN Lines	PV Surge Item Currently	Not PV Surge Item Currently	% PV Surge	% Not PV Surge
142	40	102	28%	72%

## **Cross-Case Findings**

Pharmaceutical listings from Operation Provide Promise, Support Hope and Joint Endeavor, compared at the NSN level of detail, provided the cross-case results. Only items appearing in all three operations were considered “common”. If an item appeared

in two out of the three operations it was not considered a "common" item for the purposes of this study. The matching ("common") pharmaceuticals are listed in Appendix F. The listing also indicates whether the particular pharmaceutical is currently maintained by the Prime Vendor as a preplanned surge requirement based on the requirements identified in Appendix B.

The results of the comparative analysis are summarized in Table 4. This table identifies 30 total pharmaceutical lines common to all three operations with only 13 (approximately 43 percent) currently maintained as preplanned surge requirements by Kendall. The results of the cross-case analysis show that there are pharmaceuticals required during surges which are common across different operations other than war.

Table 4: Summary of Cross-Case Analysis

"Common" Pharm Lines	PV Surge Item Currently	Not PV Surge Item Currently	% PV Surge	% Not PV Surge
30	13	17	43%	57%

### Summary

This chapter presented the results of the research effort by structuring the findings per each of the four investigative questions. The case study results were also provided following the format specified in Chapter III. Analysis occurred at the national stock number level of detail for each unit of analysis and the results were provided in summary data tables.

Chapter V will present the conclusions and implications of the results provided in this chapter. Once again, the investigative question will be used as the outline for the chapter. Each investigative question will be listed and the conclusions based on the findings will be provided. Chapter V will conclude with suggestions for future research based on the findings of this study.

## **V. Conclusions and Recommendations**

### **Chapter Overview**

An assessment of the information obtained from the focused synthesis and the case studies led to a number of conclusions about the pharmaceuticals required to support surges for MOOTW. This chapter summarizes the results of the research and presents conclusions for each of the investigative questions and research question. The management implications to the DOD medical community are also discussed. In addition, recommendations for future research are provided based on the conclusions drawn from the research's findings.

### **Conclusions**

Question One. What is the DOD Prime Vendor Program and what capability does a prime vendor have to support surges?

The DOD Prime Vendor Program is the program implemented by the DOD, DLA and DPSC-Medical to incorporate best commercial business practices in an effort to improve efficiency and responsiveness of the medical supply support system and save money through reduced inventory in depots and military medical facilities.

#### Conclusions for Question One

A DOD Pharmaceutical Prime Vendor is the sole distributor, by contractual requirement, of pharmaceuticals to military medical facilities in a given geographic region. The commercial practices they perform in providing support to the Department of

Defense are not regulated by a government organization. These vendors (PV) generally use the same inventory systems and warehouses to supply the military as they do to supply their own commercial accounts (civilian hospitals). Prime vendors are able to provide timely, efficient support by utilizing advanced information and inventory systems and maintaining a customer service focus. Because they are competing for future government contracts as well as competing against regional commercial competition in a given area, the prime vendors ensure efficient business practices, high quality of service and technologically advanced systems.

These characteristics increase the capability of the prime vendors to respond rapidly. Although enormous amounts of inventory are not held like the DLA once maintained, the improved communications, technology, practices and contractual arrangements provide the prime vendors a significant capability to react to surges. This capability has been tested on many different occasions with the two most recent tests outlined in this study resulting in high marks for the Prime Vendor for Europe. Therefore, given that the Prime Vendor is provided the requirements in advance (as specified in the requirements contract), they can adequately support surges for relatively short periods.

Question Two. *What are the current pharmaceutical preplanned surge requirements maintained by the Prime Vendor for the European region and how were they developed?*

The implementation of the prime vendor program resulted in a drastic reduction in pharmaceuticals in DLA depots. This reduction, coupled with the fact that prime vendors hold limited amounts of average inventory for daily peacetime operations, established the requirement for contingency stocks to be maintained by the prime vendor in addition to their daily operational stocks. The original preplanned pharmaceutical surge requirements were developed for the European Region Prime Vendor to ensure contingencies in the region could be adequately supported through the prime vendor process. To compare case study data to the items held by the prime vendor in support of these contingencies in the European region, it was necessary to create a comparable listing of preplanned pharmaceutical surge requirements maintained by the prime vendor for the region, Kendall Division of Bindley Western Drug Company.

#### Conclusions for Question Two

The consolidation of primary data from Kendall and the original requirements contract resulted in the listing in Appendix B of the current preplanned pharmaceutical surge requirements for the European region used in this study. These original preplanned pharmaceutical surge requirements for Europe, as developed by subject matter experts in the Army medical logistics community, clearly focus on medical support in combat scenarios. The items included in the sets are primarily considered war reserve requirements which focus on trauma treatment of combat casualties. Most of these sets were developed as pre-positioned go-to-war sets for the U.S. Army. The original surge packages were identified based on the requirements for the European theater. However, these original requirements were provided to the PV by USAMMCE with the focus that

the sets would change as the use of preplanned surge requirements became more clear and as medical operations in Europe evolved in the aftermath of the Cold War. Therefore, these sets are maintained in line item configuration by the prime vendor, Kendall, and individual pharmaceutical lines can be changed as deemed necessary by the pharmaceutical consultant or inventory manager at the SIMLM -Europe. This research effort constitutes the first review of the requirements against the actual items ordered during different surge situations in the European region.

*Question Three. How will the identification of the specific pharmaceutical surge requirements facilitate support by a prime vendor to MOOTW?*

The prime vendor program provides the opportunity for exemplary medical material support to a wide array of military operations. Although prime vendors are able to react in a timely manner to most crises, their ability to react with large quantities on short notice is limited. Therefore, the support provided to the military medical unit by the commercial prime vendor is driven by the military's ability to accurately forecast demands. An extensive system has been developed to forecast the demands of a wartime scenario and this inventory is maintained in war reserves, but the requirements in peace operations and humanitarian assistance have not been fully analyzed. By compiling primary data of pharmaceutical usage during military operations other than war and ensuring these items are maintained by a prime vendor, the military medical units can be assured these items are readily available when needed.

### Conclusions for Question Three

Based on the PV requirements contract, preplanned surge requirements may change per line item per set as well as the total number of preplanned sets. By identifying the items most likely to be required during a surge resulting from military operations other than war, ordering of non-stocked lines are minimized. Stocked lines are immediately available for shipment, but non-stocked lines must be obtained from another source before they can be shipped to the ordering activity. This is not the desired outcome during surge situations. In addition, if the non-stocked line is not on DAPA it generally takes approximately 60 days to be added to a DAPA before the PV can procure the item from the manufacturer.

Of the 30 common pharmaceuticals which exist within surges for the three operations (MOOTW) analyzed in this study, 97 percent are already on current Distribution and Pricing Agreements. The listing in Appendix G identifies the common items currently on DAPAs. This high percentage of items on DAPA is a credit to the military medical community because it shows the availability of pharmaceuticals through the PV program even with the reduced inventories in DLA depots. One can also conclude that identifying the items a PV should maintain is a critical step in the process. Since there is already a high percentage of items on DAPA, the manufacturers will be able to supply the pharmaceuticals in a timely manner and in robust quantities.

Question Four. *What pharmaceutical commonalties exist within surges for MOOTW?*

A multiple case study was performed to determine if commonalties existed within military operations other than war supported by the SIMLM-Europe. These commonalties would be the basic building blocks for a package to be maintained by the PV as preplanned surge requirements to support MOOTW. The cases studied were recent real-life operations supported by U.S. medical forces under the management of the SIMLM-Europe, USAMMCE.

Conclusions for Question Four

The comparative analysis of pharmaceuticals issued by the SIMLM-Europe to units in direct support of Operations Provide Promise, Support Hope and Joint Endeavor indicated that pharmaceutical commonalties exist within operations other than war. Appendix F lists 30 standard pharmaceutical lines which were common to all three operations, even though each operation was supported by a different branch of the United States Armed Forces performing medical support to forces of different sizes and composition. It is apparent that even though many differences exist in the operations, approximately 23 percent of the items are common across all three operations.

**Research Question**

*Are there specific pharmaceutical requirements that should be maintained by the Prime Vendor for the European region in support of surges due to military operations other than war (MOOTW)?*

The investigative questions provided a sequential process to logically understand the prime vendor program and compare the items held to support surges due to war and operations other than war. Although items identified in surges for MOOTW may be similar in nomenclature to the existing PV preplanned surge requirements, unit of issue, unit pack, and medication strength designations may indicate the unique need of these specific NSNs to support a smaller and different population than identified in the wartime scenarios. The individual case study analyses for Operations Provide Promise, Support Hope, and Joint Endeavor determined the pharmaceuticals, at the NSN level of detail, required for each specific military operation other than war. The comparative analysis of the pharmaceuticals required for each of the three operations determined the items common to MOOTW.

### **Conclusion of Research Question**

There were 30 separate FSC 6505 lines that were common to all three operations. Out of those 30 lines, 57 percent were not items currently maintained by the PV as preplanned surge requirements in support of the European region. However, 97 percent are already on current Distribution and Pricing Agreements. This indicates that there are pharmaceutical requirements unique to surges for MOOTW that should be maintained by the PV, and these items can be added to the PV inventory with little effort since they are already on current DAPAs.

## **Management Implications**

The identification of specific pharmaceutical requirements unique to operations other than war carries many management implications. This identification is important because the military's missions not only include combat operations but also military operations other than war (MOOTW). This study identified pharmaceuticals provided in rapid response to the first stages of support of MOOTW, primarily peace operations and humanitarian assistance. Approximately 70 percent of the pharmaceuticals ordered during the surge for each of the three operations were items not currently maintained by the PV as preplanned surge requirements. These differences between the actual pharmaceuticals ordered in MOOTW and the preplanned requirements held by the PV may continue to cause the ordering of non-stocked lines in future operations unless steps are taken to change this situation. A list of unique pharmaceuticals to be maintained by the Prime Vendor in support of surges was identified during this study and these items are readily available from manufacturers (on DAPA) for stockage by a prime vendor. This immediate availability for issue in surge situations is critical to the overall success of future MOOTW missions and as a result, the DOD medical community will benefit from the efficiency of the Prime Vendors in responding to crisis situations.

In addition, consolidating pharmaceuticals unique to operations other than war with pharmaceuticals maintained for war provides a greater spectrum of health service support capability at the prime vendor. This consolidation may be the first steps towards developing a comprehensive method for supporting contingency operations in the future, given the reductions in DLA depot inventories.

The criticality of the inventories maintained by the PV poses management implications as well. Because robust inventories are no longer available in the DLA, the requirements for PV inventory are critical. The existing PV preplanned surge requirements were found during this study to have many overlapping items across sets. Requiring a PV to hold excess requirements is not efficient nor cost effective and this research effort, in which specific requirements are identified for military operations other than war, is a step towards eliminating these excesses.

### **Future Research**

According to Magee, the depot and military air transportation based distribution network is disappearing. Given this eroding capability to support missions from DLA depot inventories, it is critical that new business practices be explored to support wartime operations and operations other than war (Magee, 1997: 20). This study focused on the pharmaceuticals common to MOOTW and the prime vendor's capability to support these operations. Future research should focus on medical-surgical items common to MOOTW surges to provide the baseline inventory to be held by medical-surgical prime vendors as well.

In addition, research should focus on MOOTW in regions other than Europe to determine if the items used in other regions are common with the items utilized in the European region. These items could provide the basic inventory to be maintained as vendor managed inventory, another DOD initiative, separate from the prime vendor program, by which a commercial vendor maintains a predetermined robust amount of

inventory for the military. The identification of the medical materiel to be included in the program is critical to the VMI concept (Higgins, 1996:58).

### **Thesis Summary**

The U.S. military in Europe often performs reactive medical logistics support due to threats in close proximity and global crisis situations. Although the European Pharmaceutical Prime Vendor Contract states specific surge requirements, increasing support to peace operations and humanitarian assistance have led the Army Medical Department to reexamine the pharmaceuticals traditionally maintained to support these surges.

The objective of this study was to explore the existence of unique pharmaceutical requirements used in surges in support of operations other than war. Unidentified requirements or the wrong items being stocked can create shortfalls even with Prime Vendor support to Europe. Therefore, the identification of unique pharmaceuticals to be maintained by the Prime Vendor in support of surges is critical to the overall success of these missions. The pharmaceutical inventory must be robust to support a wide range of contingencies with the possibility of differing medical support being provided by Army, Navy, Air Force, or joint units at multiple echelons to not only U.S. military forces but multinational forces as well.

This research was a qualitative, exploratory study using multiple-case study strategy to identify the specific pharmaceutical items utilized in the initial stages of military operations other than war primarily peacekeeping, peace enforcement and

humanitarian assistance. A focused synthesis was utilized to gain insight and understanding into the DOD Prime Vendor Program and its capability to support MOOTW through current provisions in the requirements contract. Through cross-case analysis, the common pharmaceuticals required to support these operations were identified. In addition, the study matched items held by the Prime Vendor for Europe as preplanned surge requirements in support of combat operations against the unique pharmaceuticals found in the case studies of peace operations to identify shortfalls in initial supply support.

The operations chosen as the units of analysis for the multiple case study strategy were Operation Provide Promise (Croatia), Operation Support Hope (Rwanda), and Operation Joint Endeavor (Bosnia-Herzegovina). These operations were characterized by emphasis on preventive medicine, treatment of infectious disease, endemic disease prevention and disease non-battle injury (DNBI) casualties, not the primary focus of current pharmaceutical requirements held in war reserve to support combat forces in combat scenarios.

The results of the research show that unique surge requirements exist for military operations other than war. Therefore, medical logistics planning for these operations should focus outside the requirements for combat scenarios. In fact, specific pharmaceutical requirements should be maintained by the Prime Vendor for the European region in support of surges due to military operations other than war (MOOTW). These requirements should include pharmaceuticals focused on the health and treatment of

multinational forces and refugees, with an emphasis in preventive medicine, in addition to the trauma and sick call treatment items currently maintained for combat scenarios.

### Appendix A. Prime Vendors by Region

<u>REGION</u>	<u>PHARMACEUTICAL PRIME VENDOR</u>
1. NATIONAL CAPITAL	BINDLEY WESTERN
2. SAN DIEGO	MCKESSON DRUG
3. SAN FRANCISCO	MCKESSON DRUG
4. PHILADELPHIA	BERGEN- BRUNSWIG
5. TIDEWATER	BERGEN- BRUNSWIG
6. LONE STAR	BERGEN- BRUNSWIG
7. ROCKY MOUNTAIN	BERGEN- BRUNSWIG
8. CASCADES/MONTANA	MCKESSON DRUG
9. IL/KY/MO	BERGEN- BRUNSWIG
10. FLORIDA PANHANDLE	BERGEN- BRUNSWIG
11. NEW YORK/NEW ENGLAND	TENNESSEE WHOLESALE
12. FLORIDA/GEORGIA	TENNESSEE WHOLESALE
13. UTAH/IDAHO	AMERISOURCE
14. DAKOTAS	DAKOTA DRUG
15. MIDWEST REGION	FOXMEYER
16. AL/TN/AR (INCL PUERTO RICO)	FOXMEYER
17. CAROLINAS (INCL PANAMA)	BINDLEY WESTERN
18. EUROPE	BINDLEY WESTERN
19. HAWAII	BERGEN- BRUNSWIG
20. ALASKA	MCKESSON DRUG
21. PACIFIC	MCKESSON DRUG

## **Appendix B. Current Preplanned Prime Vendor Surge Requirements for Europe**

<b>SET</b>	<b>NSN</b>	<b>NOMENCLATURE</b>	<b>QTY</b>	<b>NDC</b>
T841	6505010171625	ACETAMINOPHEN TABS50S	1,230	00904198260
1328	6505010171625	ACETAMINOPHEN TABS50S	1,200	00904198260
1338	6505009857301	ACETAMINOPH TAB 1000S	8	51079000260
1341	6505009857301	ACETAMINOPH TAB 1000S	20	51079000260
1339	6505006640857	ACETAZOLAMIDE TABS100	1	00364040001
1341	6505006640857	ACETAZOLAMIDE TABS100	1	00364040001
1338	6505012069246	ACYCLOVIR CAP200MG100	1	00173099155
1338	6505011378451	ACYCLOVIR OINT5% 15GM	1	00173099394
1338	6505011169245	ALBUTEROL INH AER17GM	552	00085061402
1341	6505011169245	ALBUTEROL INH AER17GM	40	00085061402
1339	6505001048061	ALUM ACET&ACETIC 60CC	1	00904352403
T841	6505001059500	AMINOPHYLLINE INJ 25S	98	00074738501
1328	6505001059500	AMINOPHYLLINE INJ 25S	100	00074738501
1338	6505001059500	AMINOPHYLLINE INJ 25S	48	00074738501
1339	6505000822659	AMITRIPTYLINE HCL TAB	1	00781148701
1339	6505009933518	AMPICIL SOD STER 1GM	622	00015740420
1341	6505009933518	AMPICIL SOD STER 1GM	1622	00015740420
1339	6505000519050	AMPICILLIN 250MG 500S	2	00003012260
1339	6505005985830	ANTIPYRINE BENZO 10ML	1	00536844072
1338	6505009298057	ASPIRIN SUPPOS600MG12	40	00536135012
T841	6505001009985	ASPIRIN TAB USP 100S	60	51079000540
1339	6505001009985	ASPIRIN TAB USP 100S	38	51079000540
1339	6505005824735	ATROPOINE SUL 1% 15 ML	1	00168017215
1338	6505010946196	ATROPOINE SULF INJ10S	2	00548103900
1341	6505010946196	ATROPOINE SULF INJ10S	2	00548103900
1338	6505007542547	ATROPOINE SULF INJ20ML	103	00469023425
1328	6505013155357	ATTAPULGITE TABS 12S	400	00009345801
1339	6505013155357	ATTAPULGITE TABS 12S	58	00009345801
1339	6505001596625	BACITRACIN OINT 12S	20	00839545447
1339	6505005824190	BACITRACIN OPHTH OINT	7	00168002638
1338	6505010673977	BACITRACIN STERILE	68	00009023301
1338	6505012400587	BECLOMETH DIPR 16.8GM	17	00085073604
1338	6505011007983	BELLADONNA ALKAL 1000	1	00536392010
1328	6505011007983	BELLADONNA ALKAL 1000	100	00536392010
1341	6505011007983	BELLADONNA ALKAL 1000	1	00536392010
1339	6505007850307	BENZTROP MESYL IN2ML6	2	00006327516
1339	6505012308726	BENZTROPINE MESYLA100	2	00839677206
1339	6505008899033	BISACODYL SUP 10MG50S	10	00245010450
T841	6505001182759	BISACODYL TABS 100S	308	51079000620
1328	6505001182759	BISACODYL TABS 100S	300	51079000620
1338	6505012663773	BRETYLIUM TOSYLATE10S	1	00074926701
1328	6505012065977	BROMPHEN MALEATE 500S	4	00031227770
1338	6505012065977	BROMPHEN MALEATE 500S	4	00031227770
1338	6505011277946	BUPIVACAINE HCL30ML10	1	00024121330
1338	6505008652401	CALCIUM CHL 10%/ML AM	1	00074624801
1338	6505001394548	CALCIUM CHLORIDE 10%	17	00074490818
1339	6505002325046	CARBAMAZEPINE TAB100S	3	00083002730
1339	6505001656545	CEPHALEXIN CAPS 100S	7	00332314509
1338	6505010100832	CEFAZOLIN SODIUM 1GM	4,054	00469310310
1338	6505012314807	CEFTAZIDIME FOR INJ10	26	00007508511
1338	6505012277028	CEFTRIAXONE SOD 10S	26	00004196201
1341	6505012277028	CEFTRIAXONE SOD 10S	10	00004196201

T841	6505013043028	CEPHAPIRIN SOD 1GM10S	49	00015762828
1327	6505013043028	CEPHAPIRIN SOD 1GM10S	50	00015762828
T841	6505011716051	CETYLPYR CHL&BENZO324	113	00068021315
1328	6505011716051	CETYLPYR CHL&BENZO324	100	00068021315
1328	6505001352881	CHARCOAL ACTIVATED	300	00574012125
1338	6505001352881	CHARCOAL ACTIVATED	13	00574012125
1339	6505007540280	CHLORAMP SOD SUC1GM10	34	00469110090
1341	6505007540280	CHLORAMP SOD SUC1GM10	2	00469110090
1338	6505011534431	CHLORHEXIDINE GL118ML	247	00310058504
1338	6505010783717	CHLOROQUINE HCL INJ5S	12	00024007401
1341	6505010783717	CHLOROQUINE HCL INJ5S	2	00024007401
T841	6505002998610	CHLORPHENI TABS 1000S	15	00839678916
1339	6505002998610	CHLORPHENI TABS 1000S	1	00839678916
1341	6505002998610	CHLORPHENI TABS 1000S	1	00839678916
1339	6505006601664	CHLORPROMAZ HCL SO4OZ	1	00054314450
T841	6505001296709	CHLORPROMAZINE INJ10S	113	00641139835
1328	6505001296709	CHLORPROMAZINE INJ10S	100	00641139835
1338	6505001296709	CHLORPROMAZINE INJ10S	1	00641139835
1341	6505001296709	CHLORPROMAZINE INJ10S	5	00641139835
1339	6505000221326	CHLORPROMAZ TAB 1000S	1	00781171610
1338	6505001601500	CHOLERA VACCINE 20 ML	2	00008034201
1338	6505010691661	CIMETIDINE HCL 8ML10S	1	00108502211
1338	6505010503547	CIMETIDINE TA300MG100	5	55953019240
1339	6505001594892	CLINDAMYCIN 150MG100S	1	00009022502
1338	6505011771982	CLINDAMYCIN INJ 25S	63	00009077526
1338	6505010235011	CLOTRIMAZOLE CRM 15GR	4	00026309161
T841	6505010235011	CLOTRIMAZOLE CRM 15GR	4,680	00026309161
1328	6505010235011	CLOTRIMAZOLE CRM 15GR	4,800	00026309161
1341	6505010235011	CLOTRIMAZOLE CRM 15GR	100	00026309161
1338	6505006874049	CYANOCOBALAMIN 10 ML	1	00641226041
1338	6505002999666	CYCLOPENTOLATE HCL SO	1	17478010012
1338	6505010453255	DETERGENT SURG 32FLOZ	14	00310057532
1338	6505009635355	DEXAMETHASONE INJ 5CC	10	00641227341
T841	6505013181565	DEXTROMETH HYDRO118ML	2,520	00904005320
1339	6505013181565	DEXTROMETH HYDRO118ML	288	00904005320
1338	6505001394460	DEXTROSE INJ 50ML 10S	14	00074490222
1341	6505001394460	DEXTROSE INJ 50ML 10S	1	00074490222
1338	6505011828009	DEXTROSE INJ250ML5%24	1	00074792253
1341	6505011828009	DEXTROSE INJ250ML5%24	2	00074792253
1338	6505005317761	DIGOXIN INJ 2ML 10S	1	00173026010
1339	6505001167750	DIGOXIN TABLETS 100S	1	00173024955
1341	6505001167750	DIGOXIN TABLETS 100S	1	00173024955
1338	6505001487177	DIPHENHYDRAMINE 1ML10	16	00071425945
1327	6505001487177	DIPHENHYDRAMINE 1ML10	100	00071425945
T841	6505001487177	DIPHENHYDRAMINE 1ML10	113	00071425945
1341	6505001487177	DIPHENHYDRAMINE 1ML10	3	00071425945
T841	6505001168350	DIPHENHYDRAMINE CAPS	1,755	00781249801
1328	6505001168350	DIPHENHYDRAMINE CAPS	1,800	00781249801
1339	6505001168350	DIPHENHYDRAMINE CAPS	1	00781249801
1341	6505001168350	DIPHENHYDRAMINE CAPS	20	00781249801
1338	6505012394660	DOBUTAMINE HCL INJ	1	00364303155
T841	6505001637656	DOCUSATE SOD CAPS100S	390	51079001920
1328	6505001637656	DOCUSATE SOD CAPS100S	400	51079001920
T841	6505008090241	DOCUSATE SOD CAPS1000	2	51079001960
1339	6505008090241	DOCUSATE SOD CAPS1000	1	51079001960

1339	6505001272923	DOPAMINE HCL INJ 5ML	9	00641141635
1341	6505001272923	DOPAMINE HCL INJ 5ML	6	00641141635
1338	6505011231060	DOPAMINE HCL IN10ML10	1	00074910501
1338	6505009173709	DOXAPRAM HCL 20MG20ML	1	00031484983
1338	6505004088935	DOXEPIN HCL CAPS 100S	1	00781280101
1338	6505011722851	DOXYCYCLINE HYCLATE	1	00469164040
1339	6505011534335	DOXYCYCLINE HYCLATE	1	00364206305
1341	6505011534335	DOXYCYCLINE HYCLATE	10	00364206305
1338	6505011040399	DROPERIDOL INJ 2ML10S	3	50458001002
1339	6505001816279	EDROPHONIUM CHL INJ10	1	00187320010
1327	6505001334449	EPINEPHRINE INJ1ML10S	100	00008026301
1338	6505001334449	EPINEPHRINE INJ1ML10S	127	00008026301
1341	6505001334449	EPINEPHRINE INJ1ML10S	2	00008026301
1338	6505010932384	EPINEPHRIN INJ10ML10S	10	00074490118
1341	6505010932384	EPINEPHRIN INJ10ML10S	2	00074490118
1338	6505010222402	EPINEPHRINE SUSPEN5ML	4	00456066405
1338	6505010865925	ERGOTAMINE TARTRA 250	1	00781199501
1339	6505012935593	ERYTHROMYCIN LACTOB10	24	00074634205
T841	6505011134758	ERYTHROMYC TAB250MG40	285	00074630440
1328	6505011134758	ERYTHROMYC TAB250MG40	200	00074630440
1339	6505011134758	ERYTHROMYC TAB250MG40	12	00074630440
1339	6505005840413	ESTROGEN 0.625MG 100S	2	00046086781
1339	6505011591493	FLUORE SOD OPH STR300	1	00046104883
T841	6505011591493	FLUORE SOD OPH STR300	98	00046104883
1327	6505011591493	FLUORE SOD OPH STR300	100	00046104883
1341	6505011591493	FLUORE SOD OPH STR300	100	00046104883
1339	6505007282626	FLURANDREN OINT 15 GM	10	55515002615
T841	6505004350377	FUROSEMIDE INJ 2ML 5S	30	00039006115
1338	6505004350377	FUROSEMIDE INJ 2ML 5S	32	00039006115
1341	6505004350377	FUROSEMIDE INJ 2ML 5S	5	00039006115
1338	6505012148774	FUROSEMIDE INJ 4ML 10	1	00024060940
1339	6505000623336	FUROSEMIDE TABS 100S	1	00364051401
1339	6505010222646	GENTAMICIN SOL 5 ML	2	00364738853
1341	6505010222646	GENTAMICIN SOL 5 ML	5	00364738853
1338	6505012139514	GENTAMICIN SULF2ML25S	50	39769001402
1338	6505010197627	GLYCOPYRROLATE 20 ML	1	00031789083
1339	6505002688530	HALOPERIDOL INJ1ML10S	2	00045025501
1341	6505002688530	HALOPERIDOL INJ1ML10S	30	00045025501
1338	6505010035341	HALOPERIDOL SOL 120ML	3	00093055312
1339	6505010032415	HALOPERIDL TAB1MG1000	1	00839734716
1339	6505008542504	HALOTHANE USP 125 ML	47	12164000112
1328	6505001175984	HCTZ TABS 50MG 100S	200	51079011120
T841	6505001175984	HCTZ TABS 50MG 100S	210	51079011120
1339	6505008897929	HCTZ TABS 50MG 1000S	1	00364032802
1338	6505001539740	HEPARIN SOD INJ 10 ML	332	39769001910
1338	6505012663780	HEPATITIS B VIRUS VAC	12	00006477300
1338	6505012811247	HETASTARCH IN SOD 12S	46	00056003746
1338	6505006855425	HYDRALAZINE 20MG 5S	1	39769002101
1339	6505005842895	HYDRALAZINE 25MG1000S	1	00364014402
1338	6505012816758	HYDROCOR ACETA&PRA1OZ	43	00021462010
1328	6505012816758	HYDROCOR ACETA&PRA1OZ	200	00021462010
T841	6505009262095	HYDROCORTISONE CRM1OZ	1,245	00168001531
1328	6505009262095	HYDROCORTISONE CRM1OZ	1,200	00168001531
1338	6505009262095	HYDROCORTISONE CRM1OZ	15	00168001531
1341	6505009262095	HYDROCORTISONE CRM1OZ	100	00168001531

1328	6505009515533	HYDROCOR SOD SUC250MG	200	00009090908
1338	6505009515533	HYDROCOR SOD SUC250MG	118	00009090908
T841	6505000521367	HYDROXYZINE HCL 10 ML	30	00641251841
1338	6505000521367	HYDROXYZINE HCL 10 ML	64	00641251841
1338	6505005799717	HYDROXYZINE HCL TABS	1	00364049505
1339	6505001129325	IDOXURIDINE SOL 15 ML	1	00023003315
1339	6505008534799	IMIPRAMINE HCL TABS	1	00332211309
1338	6505011419464	INSULIN INJ USP 10ML	1	00002821001
1338	6505011419463	INSULIN ISOPHANE 10ML	1	00002831001
1341	6505011419463	INSULIN ISOPHANE 10ML	20	00002831001
1339	6505012127483	IODINE USP 125 GRAMS	1	00019098402
1338	6505011007984	IOTHALA MEG INJ30ML50	6	00019095313
1328	6505009269197	IPECAC SYRUP 30 ML	200	00574001201
T841	6505009269197	IPECAC SYRUP 30 ML	210	00574001201
1339	6505009269197	IPECAC SYRUP 30 ML	8	00574001201
1341	6505009269197	IPECAC SYRUP 30 ML	10	00574001201
1339	6505001326904	ISONIAZID TABS 100S	1	00536394101
1341	6505001326904	ISONIAZID TABS 100S	4	00536394101
1338	6505010461894	ISOPROTERENOL HCL 10S	1	00074490501
1338	6505011171996	ISOPROTERENOL HCL 25S	4	00024086625
1339	6505007611506	ISOSORBIDE 10 MG 500S	1	00781155605
1338	6505011560701	KETOCONAZOLE TABS100S	1	50458022010
1327	6505005986116	LIDOCAINE 1.0% 50 ML	400	00364654957
T841	6505005986116	LIDOCAINE 1.0% 50 ML	600	00364654957
1328	6505005986116	LIDOCAINE 1.0% 50 ML	200	00364654957
1338	6505005986116	LIDOCAINE 1.0% 50 ML	88	00364654957
1341	6505005986116	LIDOCAINE 1.0% 50 ML	5	00364654957
1338	6505005825182	LIDOCAIN HCL INJ 1%5S	9	00186011501
1338	6505001394512	LIDOCAINE HCL INJ 10S	1	00186061101
1338	6505010920417	LIDOCAINE HCL INJ 10S	1	00074624801
1338	6505003004657	LIDOCAINE HCL INJ25ML	47	00186016701
1338	6505000636197	LIDOCAINE HCL SOL	5	00472099633
T841	6505000636197	LIDOCAINE HCL SOL	180	00472099633
1338	6505011461139	LIDOCAINE HCL&EPINEPH	4	00186017514
T841	6505007854357	LIDOCAINE OINT 35 GM	98	00168020437
1327	6505007854357	LIDOCAINE OINT 35 GM	100	00168020437
1339	6505007854357	LIDOCAINE OINT 35 GM	28	00168020437
1338	6505002688574	LINDANE SHAMPOO 2 OZ	60	00536127096
1341	6505002688574	LINDANE SHAMPOO 2 OZ	200	00536127096
T841	6505010666568	LOPERAMIDE HCL CAPS	122	00054253725
1341	6505010666568	LOPERAMIDE HCL CAPS	20	00054253725
1338	6505001507622	LUBRICANT OPHTH1/8 OZ	139	17478006235
T841	6505001538809	LUBRICANT SURG 4 OZ	420	00168020536
1327	6505001538809	LUBRICANT SURG 4 OZ	200	00168020536
1328	6505001538809	LUBRICANT SURG 4 OZ	200	00168020536
1339	6505001538809	LUBRICANT SURG 4 OZ	66	00168020536
1341	6505001538809	LUBRICANT SURG 4 OZ	10	00168020536
1339	6505001117829	LUBRICANT SURG 144S	1	00168020545
1338	6505013018175	MAGNESIUM SULFATE INJ	12	39769004201
1341	6505013018175	MAGNESIUM SULFATE INJ	2	39769004201
1338	6505011253253	MANNITOL INJ 50ML 25S	82	00469002425
1339	6505008901355	MEDROXYPRO 10 MG 100S	2	00009005002
1339	6505013151275	MEFLOQUINE HCL TABS25	8	00004017202
1338	6505009141742	MEPIVAC HCL INJ 30ML	1	00024023401
1338	6505012429149	MEPIVACAINE HCL INJ	3	00186044014

1339	6505008901856	METHYLDOPA TABS 100S	1	00781132001
1339	6505011425596	METHYLENE BLU1%10ML25	1	00517037370
T841	6505012337616	METHYL PREDNISOL AC5ML	210	00364306453
1328	6505012337616	METHYL PREDNISOL AC5ML	200	00364306453
1339	6505012337616	METHYL PREDNISOL AC5ML	3	00364306453
1341	6505012337616	METHYL PREDNISOL AC5ML	20	00364306453
1339	6505011080808	METHYL PRED SOD 1000MG	1	00009338901
1339	6505011080809	METHYL PR SOD SUC125MG	105	00009019009
1341	6505011080809	METHYL PR SOD SUC125MG	20	00009019009
1338	6505008901840	METRONIDAZOLE TAB 250	1	00364059504
1341	6505008901840	METRONIDAZOLE TAB 250	30	00364059504
1339	6505012157753	MICONAZOLE NITRA SUP3	21	00062543701
1338	6505001487263	MILK OF MAG USP 12 OZ	20	00536247083
1338	6505001736538	MINERAL OIL 30 ML 25S	1	00054857811
1338	6505012049753	MULTIVITA SOL F/INJ50	3	00186119931
1338	6505010602393	MULTIVITAMIN TAB 100S	2	00182442801
1338	6505000797867	NALOXONE HCL INJ 10S	60	00590035810
T841	6505000797867	NALOXONE HCL INJ 10S	98	00590035810
1327	6505000797867	NALOXONE HCL INJ 10S	100	00590035810
1341	6505000797867	NALOXONE HCL INJ 10S	1	00590035810
T841	6505011434644	NEO POLY SUL OIN 12S	308	17478023535
1328	6505011434644	NEO POLY SUL OIN 12S	300	17478023535
1339	6505011434643	NEO&POLYMY SUL 10ML	1	00536189070
1328	6505010430230	NEOMYCIN SULFATE 10ML	600	17478023611
1338	6505010430230	NEOMYCIN SULFATE 10ML	3	17478023611
1341	6505010430230	NEOMYCIN SULFATE 10ML	20	17478023611
1338	6505009586325	NEOSTIGMINE MET 10 ML	125	00469383030
1338	6505011263842	NIFEDIPIINE CAP10MG100	1	00364237601
1338	6505011429876	NIFEDIPIINE CAP10MG100	1	00026881148
1339	6505004207715	NITROFURAN 100MG100S	2	00172213180
1339	6505010083401	NITROGLY OINT 60GM	1	00168003860
1339	6505012463781	NITROGLYCERIN LINGUAL	1	00075085084
1339	6505006873663	NITROGLYCERIN TAB100S	1	00071057024
1341	6505006873663	NITROGLYCERIN TAB100S	4	00071057024
1338	6505011507841	NORGESTREL&ETHINYL TA	21	00008251102
1338	6505011479542	NORGESTREL&ETHINYL TA	42	00008251402
1338	6505011197694	OPHTH IRRIG SOL500ML6	1	00065079550
1338	6505001161376	OXYTOCIN INJ 1 ML 20S	1	00071416040
1338	6505001334447	PEN G BEN SUSP 2ML10S	5	00008002107
1341	6505001334447	PEN G BEN SUSP 2ML10S	40	00008002107
T841	6505008902172	PEN G POT 20000000UN	2,700	00003073531
1327	6505008902172	PEN G POT 20000000UN	2,400	00003073531
1339	6505008902172	PEN G POT 20000000UN	270	00003073531
1328	6505001334452	PEN G PROC SUS 2ML10S	1,000	00008001808
1328	6505001178579	PENICILLIN V POTAS TA	1,200	60346041440
T841	6505001178579	PENICILLIN V POTAS TA	1,395	60346041440
1339	6505001178579	PENICILLIN V POTAS TA	16	60346041440
1341	6505001178579	PENICILLIN V POTAS TA	10	60346041440
1339	6505001338025	PETROLATUM WHITE 1 LB	2	00182143345
1339	6505001388461	PHENAZOPY TABS 100S	2	00603514121
T841	6505001388461	PHENAZOPY TABS 100S	60	00603514121
1338	6505005842338	PHENYTOIN SOD CAPS	1	00071036232
1341	6505005842338	PHENYTOIN SOD CAPS	1	00071036232
1338	6505001394348	PHENYTOIN SOD INJ 10S	65	39769003405
1338	6505010268403	PHYSOSTIGMINE INJ 12S	1	00456103712

1338	6505008542499	PHYTONADIONE 1 ML 6S	1	00006778064
1341	6505008542499	PHYTONADIONE 1 ML 6S	6	00006778064
T841	6505005824679	PILOCARPINE 2% 15 ML	15	00168017415
1339	6505005824679	PILOCARPINE 2% 15 ML	1	00168017415
1341	6505005824679	PILOCARPINE 2% 15 ML	2	00168017415
1338	6505010801988	POTASSIUM CHL F/INJ25	43	00074665305
1338	6505009947224	POVIDONE-IOD SOL 1GAL	40	58879013528
1339	6505007540374	POVI-IODI TOP SOL 1GL	44	00839542413
1341	6505007540374	POVI-IODI TOP SOL 1GL	3	00839542413
1338	6505001335843	PREDNISOLONE 1% 5 ML	4	11980018005
T841	6505005276885	PROBENECID TABS 100S	113	00364031401
1328	6505005276885	PROBENECID TABS 100S	100	00364031401
1341	6505005276885	PROBENECID TABS 100S	1	00364031401
1338	6505005825370	PROCAINAMIDE HCL CAPS	1	00364021901
1338	6505002998614	PROCAINAMIDE 10 ML	1	00641258741
T841	6505006807352	PROMETHAZINE HCL 25S	15	00008006301
1338	6505001067394	PROPRAN HCL INJ1ML10S	9	00046326510
1341	6505001067394	PROPRAN HCL INJ1ML10S	1	00046326510
T841	6505001490098	PSEUDOEPH HCL TAB 24S	1,260	00904505324
1328	6505001490098	PSEUDOEPH HCL TAB 24S	1,200	00904505324
1341	6505001490098	PSEUDOEPH HCL TAB 24S	240	00904505324
1328	6505011479451	PYRETHRINS&PIPERONYL	600	00536198596
T841	6505005607331	SILVER SULFAD CR400GM	58	00044210070
1328	6505005607331	SILVER SULFAD CR400GM	100	00044210070
1341	6505005607331	SILVER SULFAD CR400GM	10	00044210070
1338	6505005598456	SODIUM CHL INJ 5ML25S	10	00641150035
1338	6505010095019	SODIUM NITROPRUS 50MG	8	00641012521
T841	6505006198215	SOD PHOS ENEMA 133ML	180	00536741551
1338	6505011932830	SODIUM POLYSTYRENE SU	1	00054380563
1338	6505005599811	SUCCINYLCHOLINE 10ML	250	00074662902
T841	6505001839419	SULF SOD OINT 1/8 OZ	810	00168007938
1328	6505001839419	SULF SOD OINT 1/8 OZ	800	00168007938
T841	6505010161470	SULFA&TRIMETHO TAB100	15	00054480125
1338	6505010139941	TERBUTALINE SULF IN10	23	00028750723
T841	6505010392808	TERBUTA SUL TAB5MG100	30	00028010501
1327	6505006855189	TETANUS TOXOID 5 ML	100	00005193831
1338	6505006855189	TETANUS TOXOID 5 ML	42	00005193831
1341	6505006855189	TETANUS TOXOID 5 ML	10	00005193831
1338	6505005824737	TETRACAIN 0.5% 15 ML	1	00536500272
1341	6505005824737	TETRACAIN 0.5% 15 ML	1	00536500272
T841	6505006558355	TETRA HCL 0.25GM 100S	210	00005488023
1328	6505006558355	TETRA HCL 0.25GM 100S	200	00005488023
1338	6505012087344	THEOPHYLLINE CAPS100S	11	00085058401
T841	6505010696520	THEOPHY TAB 300MG1000	15	00085058410
1338	6505012380362	THIAMINE HCL INJ1ML25	7	00641061025
1338	6505010920422	TIMOLOL MAL 0.5% 10ML	1	00006336710
1341	6505010920422	TIMOLOL MAL 0.5% 10ML	10	00006336710
1338	6505009829069	TOLBUTAMIDE TABS 200S	1	00009010002
1338	6505006828194	TRIAMCINO 0.1% 15 GM	10	00093093715
T841	6505006828194	TRIAMCINO 0.1% 15 GM	1,215	00093093715
1328	6505006828194	TRIAMCINO 0.1% 15 GM	1,200	00093093715
1341	6505006828194	TRIAMCINO 0.1% 15 GM	10	00093093715
T841	6505007539615	TRIPROLIDINE&PSEUDOEP	113	00904025060
1328	6505007539615	TRIPROLIDINE&PSEUDOEP	100	00904025060
1338	6505012580983	VECURONIUM BROMIDE10S	5	00052044115

1338	6505012663771	VERAPAMIL HCL INJ 10S	1	00074114315
1338	6505005434048	WATER INJECT 5 ML 25S	69	00517300525
T841	6505005434048	WATER INJECT 5 ML 25S	420	00517300525
1328	6505005434048	WATER INJECT 5 ML 25S	400	00517300525
1338	6505010750679	WATER STER 1000ML 12S	24	00074713909
T841	6505010750679	WATER STER 1000ML 12S	4	00074713909
T841	6505001501990	ZINC OXIDE OINT 1OZ	30	00168006231

## **Appendix C: Operation Provide Promise Pharmaceutical Surge Orders**

NSN/NDC	NOMENCLATURE	QUANTITY
6505010171625	ACETAMINOPHEN TABS50S	200
6505009857301	ACETAMINOPH 325GM1000	4
6505011378451	ACYCLOVIR OINT5% 15GM	10
6505011169245	ALBUTEROL INH AER17GM	18
6505001490247	ALUM HYDROX GEL MAG48	3
6505001059500	AMINOPHYLLINE INJ 25S	5
6505010111464	AMOXICILLIN SUS 150ML	4
6505012066228	AMOXICIL&POTAS CLAV30	15
6505001009985	ASPIRIN 325 MG 100S	54
6505011357373	ATENOL TAB 50MG 100S	6
6505012400587	BECLOMETH DIPR 16.8GM	12
6505011479555	BENZ PER 10% 2.0OZ	12
6505007850307	BENZTROP MESYL IN2ML6	2
6505011587615	BISMUTH SUBSAL 120ML	35
6505010696261	CALC CARBONA TABS 60S	10
6505012277028	CEFTRIAXONE SOD 10S	3
6505011751228	CEFUROXIME SOD750MG25	4
6505001656545	CEPHALEXIN 250MG 100S	7
6505011716051	CETYLPYR CHL&BENZO324	10
6505001352881	CHARCOAL ACTIVATED	6
6505011534431	CHLORHEXIDINE GL118ML	12
6505001594892	CLINDAMYCIN 150MG100S	2
6505010151405	CLOTrimazole CRM 30GR	15
6505000586789	CYANOCOBALAMIN INJ10S	11
6505010453255	DETERGENT SURG 32FLOZ	4
6505009635355	DEXAMETHASONE INJ 5CC	5
6505013181565	DEXTROMETH HYDRO118ML	120
6505011082216	DEXTRO 5%INJ 100ML48S	4
6505001161025	DEXTROSE&SOD CHL IN12	16
6505012406894	DIAZEPAM INJ 10ML	10
6505010248335	DICLOXA CILLIN CAP500S	3
6505013544571	DILTIAZEM EX-REL CAPS	2
6505001168350	DIPHENHYDRAMINE CAPS	8
6505002999535	DUBICAINE OINT 1OZ	12
6505012368881	ENALAPRIL MALEATE 100	2
6505010932384	EPINEPHRINE INJ10ML10	5
6505000800653	ERYTHROMYCIN ETH 8GM	8
6505011849140	ERYTHROMYCIN SOL 60ML	8
6505001489814	FUROSEMIDE 10 ML 5S	4
6505012139514	GENTAMICIN SULF2ML25S	8
6505011636333	GLYCER OPHTH SOL7.5ML	3
6505012389443	GUAIFENESIN EX-REL100	12
6505010035341	HALOPERIDOL SOL 120ML	2
6505013508164	HEMORRHOIDAL SUPPOS12	12
6505010838124	HEPARIN SOL10UNIT 50S	4
6505012663780	HEPATITIS B VIRUS VAC	4
6505012816758	HYDROCOR ACETA&PRA1OZ	10
6505009262095	HYDROCORTISONE CRM 1OZ	50
6505001538480	HYDROG PEROX SOL 1 PT	20
6505005799717	HYDROXYZINE HCL TABS	1
6505001288035	IBUPROFEN TABS 500S	5
6505010980247	IBUPROFEN TAB600MG500	6

6505012154825	INSULIN HUMAN INJ10ML	8
6505012561948	IPRATROPIUM BROMI INH	5
6505006558366	ISOPROPYL ALCOHOL 1PT	10
6505006895522	ISOPROTERENOL HCL INJ	9
6505011793078	KAOLIN&PECTIN SUSP4OZ	12
6505013575375	KETOROLAC TROMETH INJ	6
6505005843131	LIDOCAINE HCL 2% 30ML	10
6505003343461	LIDOCAINE HCL INJ50ML	1
6505005825183	LIDOCAINE HCL&EPIN 5S	5
6505013628317	LIDOCAINE HCL&EPINEPH	36
6505002688574	LINDANE SHAMPOO 2OZ	16
6505012750061	LISINOPRIL TAB10MG100	4
6505002165371	MAGNESIUM SULF INJ10S	2
6505009141742	MEPIVAC HCL INJ 30ML	4
6505009520267	METHYLPREDNISOLONE 1ML	2
6505011243800	METOCLOPRAMIDE HCL TAB	4
6505011534364	METRONIDAZOL HCL INJ10	10
6505008901840	METRONIDAZOLE TAB 250	3
6505010498881	MICONAZOLE NITRA 45GM	8
6505012721975	MIDAZOLAM HCL INJ 10S	20
6505000035112	MINOCYCLINE CAPS 50S	6
6505013026664	NAFCILLIN SOD F/INJ10	2
6505010460126	NAPROXEN TAB250MG500S	3
6505011434643	NEO&POLYMY SUL 10ML	4
6505010430230	NEOMYCIN SULFATE 10ML	10
6505002998740	NEOMY SUL&BACIT 1/2OZ	20
6505012007182	NITROGLYC INJ 10ML 5S	4
6505012085994	NORETHINDRONE&ETHINYLL	7
6505012104450	OXYCODONE HCL&ACETAM	6
6505010620904	OXYMETAZOLINE HCL 25S	3
6505008902172	PEN G POT 20000000UN	7
6505001178579	PENICILLIN V FOTAS TAB	6
6505011071479	PHENYLPROPANOLAMINE	22
6505010785245	POTASSIUM BICARB&POTA	5
6505001487096	POV-IOD OIN 3.5GM 144S	3
6505007540374	POV-IOD TOP SOL 1GL	2
6505011253248	PRALIDOXIM CHL INJ2ML	4
6505002797606	PREDNISONE TABS 500S	1
6505005306470	PREDNISONE TABS 1000S	2
6505005825370	PROCAINAMIDE HCL CAPS	1
6505006807352	PROMETHAZINE HCL 25S	2
6505013162805	PROPOFOL INJ 20ML 5S	5
6505010916063	RABIES VACCINE HUMAN	12
6505013127873	RINGERS INJ 500ML 24S	12
6505011549922	RINGERS INJ 500ML 18S	12
6505000836537	RINGERS INJ 1000ML 12S	86
6505005607331	SILVER SULFAD CR400GM	6
6505008901373	SIMETHICONE 40MG 500S	1
6505010750678	SOD CHL 0.9% 1000ML12S	24
6505013841365	SODIUM CHL INJ100ML80S	5
6505004434582	SOD CHL IRRIG3000ML4S	3
6505011926554	SOD CHL NASAL SOL45ML	24
6505010161470	SULFA&TRIMETHO TAB100	8
6505013745875	SUMATRIPTAN SUCCINATE	12
6505006855189	TETANUS TOXOID 5ML	3

6505001394600	TETRAHYDROZOLINE 15ML	6
6505000503078	THIORIDAZINE HCL TABS	2
6505010103066	TOBRAMYCIN INJ 2ML	15
6505010376536	TOLNAFTATE PWD 45GM6	24
6505000656772	TRIAMCINOLONE ACETONI	1
6505009268913	TRIAMCINOL ACETO 5GM	2
6505010083054	UNDECYLENIC POWDR 45GM	80
6505012478801	VANCOMYCYIN HCL 1GM10S	4
6505006848625	VASOPRESSIN INJ1ML10S	3
6505012892004	VECURONIUM BROMIDE	6
6505006018965	WATER IRRIG 1000ML12S	2

## **Appendix D: Operation Support Hope Pharmaceutical Surge Orders**

NSN	NOMENCLATURE	QUANTITY
6505010171625	ACETAMINOPHEN TABS50S	96
6505011378451	ACYCLOVIR OINT5% 15GM	10
6505001490247	ALUM HYDROX GEL MAG48	2
6505005985830	ANTIPYRINE BENZO 10ML	12
6505010156456	ARTIFICIAL TEARS SOL	50
6505010804111	ASPIRIN DELREL TAB100	5
6505001181948	ASPIRIN TAB USP 100S	5
6505011770589	BACITRACIN OINT 144S	2
6505011464255	BENZOC BUTA TETRA 56GM	1
6505010645770	BENZOCAINE SOL 1 OZ	1
6505011057483	BENZOCAINE SOL 2 OZ	1
6505001182759	BISACODYL TABS 100S	1
6505011587615	BISMUTH SUBSALICY 120ML	10
6505011533909	BISMUTH SUBSALICY 12S	4
6505012705971	BROMPHENIRAMA MALEA 24S	14
6505011532865	CALAMINE&DIPHENHYDRAM	6
6505012277028	CEFTRIAXONE SOD 10S	5
6505010231078	CEPHRADINE CAPS 500MG	4
6505010099531	CEPHRADINE CAPS 100S	4
6505011716051	CETYLPYR CHL&BENZ 324	6
6505011770127	CETYLPYRID LOZ 648S	4
6505001352881	CHARCOAL ACTIVATED	1
6505011534431	CHLORHEXIDINE GL 118ML	2
6505001176450	CHLOROQUINE 0.3GM 500S	50
6505013373124	CIPROFLOXACIN CONCE 60	11
6505012722383	CIPROFLOXACIN TABS 100S	24
6505012738650	CIPROFLOXACIN TABS 100S	900
6505001594892	CLINDAMYCIN 150MG100S	10
6505010235011	CLOTRIMAZOLE CRM 15GR	25
6505010151405	CLOTRIMAZOLE CRM 30GR	24
6505011067281	CLOTRIMAZOLE CRM 45GR	10
6505010151406	CLOTRIMAZOLE SOLUTION	20
6505012496397	COAL TAR SHAMPOO 4OZ	2
6505010453255	DETERGENT SURG 32FLOZ	8
6505011494121	DEXTROMETHORPHAN HCL	2
6525013306263	DEX&SOD CHL INJ 12S	9
6505000836541	DEXTROSE&SOD CHL 5%	1
6505000836538	DEXTRO INJ5% 1000ML12	3
6505010297892	DICLOxacillin SOD CAP	10
6505001169660	DIMENHYDRINATE TT 100	1
6505001320294	DIPHENHYDRAMINE CAPS	20
6505006874545	DIPHENHYDRAMINE HCL	1
6505012433240	DIPHENHYDRAMINE HCL 24S	5
6505001487177	DIPHENHYDRAMINE 1ML10	12
6505012048189	DIPHTHERIA&TETANUS 10S	1
6505001637656	DOCUSATE SOD CAPS100S	5
6505000095060	DOXYCYCLINE HYCLATE	300
6505000095063	DOXYCYCLINE HYCLATE	15
6505011534335	DOXYCYCLINE HYCLATE	20
6505010865925	ERGOTAMINE TARTRA 250	2
6505001538278	GLOBULIN IMMUNE 10ML	4
6505011455223	GLOBULIN RABIES 2 ML	190

6505000648765	GUAIIFENESIN SYR 4FLOZ	24
6505012389443	GUAIIFENESIN EX-REL 100	5
6505009262095	HYDROCORTISONE CRM 1OZ	24
6505011749931	HYDROCORTISONE OINT	36
6505001538480	HYDROG PEROX SOL 1PT	1
6505001288035	IBUPROFEN TAB 400MG500	48
6505010436795	INSECT STING TREAT KT	10
6505010789605	ISOPROPYL ALCOHOL 1GL	1
6505006558366	ISOPROPYL ALCOHOL 1PT	24
6505002617256	ISOPROPYL ALCOHOL 1QT	4
6505011793078	KAOLIN&PECTIN SUSP 4OZ	338
6505002998279	LINDANE CREAM USP 60GM	24
6505003557035	LINDANE LOTION 2OZ	4
6505002688574	LINDANE SHAMPOO 2OZ	8
6505012385632	LOPERIMIDE HCL CAPS	7
6505012819690	LOPERIMIDE HCL 120ML	3
6505013151275	MEFLOQUINE HCL TABS25	800
6505011313436	MENINGOCOCCAL VAC 50	20
6505009520267	METHYLPREDNISOLONE 1ML	10
6505008901840	METRONIDAZOLE TAB 250	2
6505011534041	MINERAL OIL USP 6 OZ	2
6505001336000	MINERAL OIL USP 946ML	2
6505012756047	MULTIVITAMIN&MIN TABS	1
6505012672507	NALIDIXIC ACID TAB500	720
6505010460126	NAPROXEN TAB250MG500S	12
6505011728892	NEOMYCIN&POLYMY B SUL	10
6505010430230	NEOMYCIN SULFATE 10ML	10
6505001301940	NITROUS OXIDE 2000 GL	2
6505008895794	NYSTATIN OINT 30GM	2
6505002165051	NYSTATIN ORAL SUSP	2
6505011331454	OPHTHALMIC IRR SOL 1OZ	55
6505011197694	OPHTH IRRIG SOL500ML6	10
6505011978809	ORAL REHYDRATION SALT	406
6505012104450	OXYCODONE HCL&ACETAM	12
6505009652439	OXY TUBE W/MASK 24 GL	5
6505001178579	PENICILLIN V POTAS TAB	36
6505002545527	PETROLATUM WHT 1OZ	4
6505011071479	PHENYLPROPANOLAMINE	2
6505008933739	PHENYLPROPANOLAMINE	1
6505004917557	POVIDINE-IOD CLN 4OZ	12
6505012650059	POVIDINE-IODINE SOL50	20
6505010672812	POVIDINE-IODINE SOL 4OZ	8
6505009143593	POVI-IOD TOP SOL .5OZ	5
6505002867011	POVI-IOD TOP SOL 8OZ	4
6505002797606	PREDNISONE TABS 500S	1
6505005306470	PREDNISONE TABS 1000S	3
6505010729666	PREDNISONE TAB 20MG100S	2
6505013482465	PRIMAQUINE PHOS TABS100	350
6505001490098	PSEUDOEPHED HCL TAB 24S	96
6505009582366	PSEUDOEPHED TABS 1000S	4
6505009579532	QUININE SULF325MG 100S	10
6505010428040	QUININE SULF CAP 1000S	2
6505010916063	RABIES VACCINE HUMAN	147
6505011651482	RANITIDINE TABS 100S	1
6505013306267	RINGER INJ 1000ML 12S	5

6505000836537	RINGER INJ 1000ML 12S	17
6505005607331	SILVER SULFAD CR400GM	7
6505010750678	SOD CHL 0.9% 1000ML12S	5
6505000836544	SODIUM CHL INJ 12S	192
6505005598456	SODIUM CHL INJ 5ML25S	2
6505011608378	SODIUM PHOSPHATE ENEMA	4
6505006198215	SOD PHOS ENEMA 133ML	4
6505005769120	SULFACETAMIDE 15ML	6
6505011304679	SULFACETAMIDE SOD OINT	10
6505001839419	SULFA SOD OINT 1/8OZ	1
6505010161470	SULFA&TRIMETHO TAB100	12
6505001487164	SULFA&TRIMETHO TAB500	1
6505011212336	SUNSCREEN PREP 4FL OZ	24
6505006855189	TETANUS TOXOID 5ML	2
6505011828657	TETANUS TOXOID USP10S	2
6505001394600	TETRAHYDROZOLINE 15ML	50
6505006558355	TETRA HCL 0.25GM 100S	950
6505010222648	TOLNAFTATE CRM 15GM 6S	556
6505009268913	TRIAMCINOL ACETO 5GM	20
6505011157836	TRIETHAN POL SOL 6ML	6
6505011425595	TRIPROLIDINE&PSEUDOEP	240
6505000796759	TYPHOID VACC 50 DOSES	3
6505010083054	UNDECYLENIC POWDR 45GM	48
6505005434048	WATER INJECT 5ML 25S	32
6505001621520	YELLOW FEVER VAC 10ML	2

## **Appendix E: Operation Joint Endeavor Pharmaceutical Surge Orders**

NSN/NDC	NOMENCLATURE	QUANTITY
F00182100019	ACETAMIN 325MG TAB 50S	900
F00081099155	ACYCLOVIR CAP200MG100	12
F00085020802	ALBUTEROL INHAL 20 ML	9
F00364063301	ALLOPURIN TAB300MG100	4
F00067033379	ALUMINUM HYDROX 50Z48S	8
F00536303501	ALUM HYDROX CHEW 100S	10
6505001484631	ALUM HYDROX TABS 100S	20
F00332310713	AMOXICILLIN 250MG 500S	10
F00029607527	AMOXIC&POTA CLAVULA30	16
F00536844072	ANTIPYRIN BENZ 15ML	20
F07985430035	ASCORBIC ACID500MG100S	10
F51079000540	ASPIRIN 325MG 100S	31
F00005321943	ATENOLOL TABL 50MG100	4
F00839545447	BACITRACIN OINT.5%15GM	336
6505012405813	BECLOMET DIPROP17GMINH	24
F00536392010	BELLADONNA ALK 1000S	4
F00456068801	BENZONATATE 100MG 100S	8
F00839618652	BENZOY PERX5% 1.50Z	16
F00093067315	BETAME CRM 15GM.1%	40
F00839743029	BISMUTH SUBSA CHEW 48S	100
F00904328040	BUTALBI ACETAMINOP500S	4
F00395041394	CALAMINE LOTION 120ML	80
F00004196201	CEFTRIAXON SOD250MG10S	4
F00003011350	CEPHRADINE 250MG 100S	26
F00574012125	CHARCOAL ACTI15GM 72ML	15
6505011534431	CHLORHEXIDINE GL118ML	8
F00839678916	CHLORPHENIR 4MG 1000S	6
6505010917508	CHLO MAL&PSEU HCL500XR	4
F00026851348	CIPROFLOX 500MG UD100S	4
F00026309159	CLOTrimazole CRM1%30GM	90
6505010906795	CLOTrimazol VAG100MG7	80
F00364234801	CYCLOBENZAPRINE10MG100	8
F17478010012	CYCLOPENTOLA HCL1%15ML	4
F00310057532	DETERG SURG 4% 1QT	20
F00074792336	DEXTROSE INJ 50ML 80S	3
F00074152202	DEXTROSE 5% 250ML 12S	1
F00074792202	DEXTROSE 5% 250MLS 24S	2
F00074792209	DEXTROSE 5% 1000ML 12S	1
F00031227770	DIMETAPP EXTENTAB 500S	6
F00182049210	DIPHENHYDRAMI25MG1000S	4
F51079001960	DOCUSATE SOD100MG1000S	4
6505011534335	DOXYCYCLIN TAB100MG500	4
F00071401113	EPINEPHR INJ1MG/ML30ML	10
F00781199501	ERGOTAMI TARTR&CAF100	4
F00074630440	ERYTHROMYC TAB250MG40	100
F00168007038	ERYTHROMYC OPH OIN3.5GM	48
6505005840412	ESTROGENS CONJUG TABS	1
F00033228016	FEMSTAT VAGINAL CR 3S	8
F00049342030	FLUCONAZOLE 100MG 30S	4
F00093026292	FLUOCINONIDE 0.05%CR60	16
F00046104883	FLUORE SOD OPH STR300	4
F00364738853	GENTAMICIN SOL 5 ML	6

6505012389443	GUAIFENESIN EX-REL100	24
F00839774392	HEMORRHOIDAL SUPPOS12	8
F00005375234	HYDROCORT 25MG 1000S	1
F00536140612	HYDROCORT ACET SUPP12	8
F00168001531	HYDROCORTISO CRM1%1OZ	200
6505001538480	HYDROG PEROX SOL 1 PT	24
F00364076505	IBUPROFEN 400MG 500S	20
F00009072503	IBUPROFEN 800MG 500S	20
F00172402980	INDOMETHACIN 25MG 1000	4
6505010436795	INSECT STING TREAT KT	16
F00597008214	IPRATRO BRO INH14GM200	16
F00839756104	ISOMETHEPTENE MUCAT50	8
F00395124916	ISOPROPYL ALC 70% 1PT	4
F50458022010	KETOCONAZOLE 200MG100	4
F50419043303	LEVONORGEST/ETH 3X28S	6
6505007854357	LIDOCAINE OINT 35 GM	16
F00364654957	LIDOCAINE 1% INJ 50ML	8
F00186011501	LIDOCAIN HCL IN1%20ML	20
F00536126296	LINDANE LOTION 2 OZ1%	32
F00536127096	LINDANE SHAMPOO 2OZ1%	32
F00008251402	LO-OVRAL BCP 28TABSX6	8
F50458040001	LOPERAMIDE HCL 2MG100	32
F17478006235	LUBRICANT OPHTH1/8 OZ	40
F00168020536	LUBRICANT SURG 4 OZ12S	4
F00395060010	MAGNESIUM CIT 300ML	24
F00364034605	METHOCARBAM TA500MG500	4
6505011425596	METHYLENE BLU1%10ML25	1
6505009520267	METHYLPREDNISOLONE 1ML	6
F00904262331	METHYLSALICYL OINT30GM	144
F00378003201	METOPROLOL TART50MG100	4
F00364059504	METRONIDAZOLE250MG250S	4
F00536247083	MILK OF MAGSUSP 360ML	6
F65051219546	MINERAL OIL LAN 2OZ144	4
F00182442801	MULTIVITAMIN TAB 100S	36
6505010076116	MULTIVIT&MINER 1MG100	24
6505011377901	NAPHAZO HCLPHEN15MLOPH	96
F00005330031	NAPROXEN TAB 250MG500S	8
F17478023535	NEO POLY SUL OPHT3.5GM	40
F17478023611	NEOMYCIN SUL SUSP 10ML	40
F00069265066	NIFEDIPINE XR30MG 100	5
6505011682610	NORETH&ETH 1/35 1X3	6
F10356009004	OINTMENT BASE 4 OZ	88
6505011472084	OPHTHALMIC IRR SOL4OZ	20
6505012085994	ORTHO NOVUM 7/7/7 3X28	6
6505012104450	OXYCODONE HCL&ACETAMI	8
6505010620904	OXYMETAZOL NASAL3ML25S	8
F00008002107	PEN G BEN SUSP 2ML10S	4
F60346041440	PENICIL V POTAS250MG40	80
6505005825344	PHENAZOPYRID 100MG1000	4
6505011071479	PHENYLPROPANOLAMINE	24
F51479000601	PHENYLPROPA SUSTREL100	16
F00364242772	POLYVINYL ALC 1.4%15ML	80
6505004917557	POVIDONE IOD CLN 4 OZ	24
F45802005255	POVID-IOD TOP SOL 8OZ	40
F00364021802	PREDNISONE 5MG 1000S	8

F11980018005	PREDNISOLONE 1% 5 ML	4
F00713013512	PROCHLOR SUPP 25MG 12S	4
F00364022201	PROMETHAZINE 25MG 100S	4
F00007336620	PROCHLORPERAZ5MG 100S	4
F00364022201	PROMETHAZINE 25MG 100S	6
F00008021201	PROMETHAZINE SUPP 12S	6
F00085061402	PROVENTIL INH AER 17GM	80
F00904505324	PSEUDOEPH HCL 30MG 24S	20
F00904025024	PSEUD/TRIPROL TABS 24S	160
F00536444454	PSYLLIUM HYDROPHI14OZ	12
6505002261213	PSYLLIUM/BICARB6.4GM30	12
6505010916063	RABIES VACCINE HUMAN	12
F00173034442	RANITIDINE 150MG 60S	18
6505000836537	RINGERS INJ1000ML12S	4
F00904005320	ROBITUSSIN DM GEN120ML	276
F00048210070	SILVER SULFAD CR400GM	4
F00048210077	SILVSULFADIAZINECR25GM	24
F00074713809	SOD CHLO.9% 1000ML 12S	4
6505009750607	SOD CHL INJ 250ML 12S	1
F00074798353	SODIUM CHLOR 250ML 24S	2
F49502083005	SODIUM CHLINHA.9%100SO	1
6505010161470	SULFA&TRIMETHO TAB100	12
6505011212336	SUNSCREEN PREP 4FL OZ	120
F00068072361	TERFENADINE 60MG 100S	4
F00005193831	TETANUS TOXOID 5 ML	4
F00536500272	TETRACAIN 0.5% 15 ML	4
6505001394600	TETRAHYDROZOLINE 15ML	12
F00006336703	TIMOLOL MALEA SOL 5ML	4
F00839612647	TRIAMCINOLONE0.1% 15GM	120
F00075006037	TRIAMCI ACETON INH20GM	8
F00839740341	TRIAMCINOL ACETO 5GM	8
F00781100805	TRIAM/HCTZ 75/50 500S	1
6505004002054	TYLENOL#3 300/30 EQ100	8
6505010083054	UNDECYLENIC POWDR45GM	950
F00025189131	VERAPAMIL 240MG SR 100	6
F00074713909	WATER STER 1000ML 12S	5
6505004005014	WATER FOR INJ250ML12S	3

**Appendix F: Cross Case (“Common”) Pharmaceuticals**

NSN	NOMENCLATURE	NOT PV SURGE
6505010171625	ACETAMINOPHEN TABS50S	
6505001490247	ALUM HYDROX GEL MAG48	X
6505012277028	CEFTRIAXONE SOD 10S	
6505001352881	CHARCOAL ACTIVATED	
6505011534431	CHLORHEXIDINE GL 118ML	
6505010151405	CLOTTRIMAZOLE CRM 30GR	X
6505010453255	DETERGENT SURG 32FLOZ	
6505012389443	GUAIFENESIN EX-REL100	X
6505009262095	HYDROCORTISONE CRM 1OZ	
6505001538480	HYDROG PEROX SOL 1PT	X
6505001288035	IBUPROFEN TAB 400MG500	X
6505006558366	ISOPROPYL ALCOHOL 1PT	X
6505002688574	LINDANE SHAMPOO 2OZ	
6505009520267	METHYLPREDNISOLONE 1ML	X
6505008901840	METRONIDAZOLE TAB 250	
6505010460126	NAPROXEN TAB250MG500S	X
6505010430230	NEOMYCIN SULFATE 10ML	
6505012104450	OXYCODONE HCL&ACETAM	X
6505001178579	PENICILLIN V POTAS TAB	
6505011071479	PHENYLPROPANOLAMINE	X
6505005306470	PREDNISONE TABS 1000S	X
6505010916063	RABIES VACCINE HUMAN	X
6505000836537	RINGERS INJ 1000ML 12S	X
6505005607331	SILVER SULFAD CR400GM	
6505010750678	SOD CHL 0.9% 1000ML12S	X
6505010161470	SULFA&TRIMETHO TAB100	
6505006855189	TETANUS TOXOID 5ML	
6505001394600	TETRAHYDROZOLINE 15ML	X
6505009268913	TRIAMCINOL ACETO 5GM	X
6505010083054	UNDECYLENIC POWDR 45GM	X

**Appendix G: Common Pharmaceuticals versus Current DAPAs**

NSN	NOMENCLATURE	ON DAPA
6505010171625	ACETAMINOPHEN TABS50S	X
6505001490247	ALUM HYDROX GEL MAG48	X
6505012277028	CEFTRIAXONE SOD 10S	X
6505001352881	CHARCOAL ACTIVATED	X
6505011534431	CHLORHEXIDINE GL 118ML	X
6505010151405	CLOTRIMAZOLE CRM 30GR	X
6505010453255	DETERGENT SURG 32FLOZ	X
6505012389443	GUAIFENESIN EX-REL100	X
6505009262095	HYDROCORTISONE CRM 1OZ	X
6505001538480	HYDROG PEROX SOL 1PT	X
6505001288035	IBUPROFEN TAB 400MG500	X
6505006558366	ISOPROPYL ALCOHOL 1PT	X
6505002688574	LINDANE SHAMPOO 2OZ	X
6505009520267	METHYLPREDNISOLONE 1ML	X
6505008901840	METRONIDAZOLE TAB 250	X
6505010460126	NAPROXEN TAB250MG500S	X
6505010430230	NEOMYCIN SULFATE 10ML	X
6505012104450	OXYCODONE HCL&ACETAM	X
6505001178579	PENICILLIN V POTAS TAB	X
6505011071479	PHENYLPROPANOLAMINE	X
6505005306470	PREDNISONE TABS 1000S	X
6505010916063	RABIES VACCINE HUMAN	
6505000836537	RINGERS INJ 1000ML 12S	X
6505005607331	SILVER SULFAD CR400GM	X
6505010750678	SOD CHL 0.9% 1000ML12S	X
6505010161470	SULFA&TRIMETHO TAB100	X
6505006855189	TETANUS TOXOID 5ML	X
6505001394600	TETRAHYDROZOLINE 15ML	X
6505009268913	TRIAMCINOL ACETO 5GM	X
6505010083054	UNDECYLENIC POWDR 45GM	X

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### Vita

Captain James Bruce Upton was born in California, but grew up in Clarksville, Arkansas. He was commissioned in the Army in May 1987 through the ROTC program at Arkansas Tech University and also received a Bachelor of Science Degree in Business Administration. Prior to attending Officer Basic Course at Ft. Sam Houston in San Antonio, Texas, he attended the U.S. Army Airborne School in Ft. Benning, Georgia and received the coveted Parachutist Badge.

His initial assignment was as a medical platoon leader in the 64<sup>th</sup> Support Battalion (Forward), 4<sup>th</sup> Infantry Division (Mechanized), Colorado Springs, Colorado, where he also earned the Expert Field Medical Badge. In January 1990, he was assigned as the Company Commander of the Joint Task Force Bravo Medical Company in Honduras. After returning to Ft. Carson, he served as the S-1, Personnel Officer, for the 704<sup>th</sup> Main Support Battalion for a year before attending the AMEDD Officer Advanced Course.

Upon graduating from the advanced course and the Medical Logistics Officer Course in Ft. Sam Houston, Captain Upton was assigned to the U.S. Army Medical Materiel Center, Europe in Pirmasens, Germany. While in Germany, he served as the Chief of Transportation, Chief of Storage, and Chief of Inventory in the Army's largest medical supply account. While in Germany, he provided medical supply support to Operations Provide Promise, Restore Hope, Support Hope, and Joint Endeavor.

In 1997, he graduated from the Air Force Institute of Technology with a Master of Science Degree in Logistics Management and was assigned to Ft. Detrick, MD.

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